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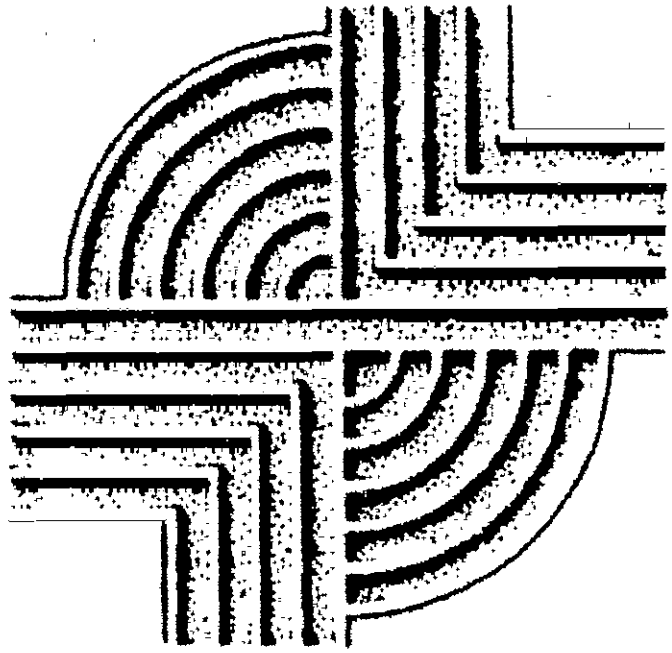

CHICORA RESEARCH CONTRIBUTION 283

ARCHAEOLOGICAL SURVEY OF THREE SANTEE COOPER CORRIDORS, FRANCIS MARION NATIONAL FOREST, BERKELEY COUNTY, SOUTH CAROLINA

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ABSTRACT

This study reports on an intensive archaeological survey of three sections of the Santee Cooper Jefferies (Pinopolis) to Kingstree 230kV and 115kV transmission lines which are situated on the Francis Marion National Forest. The powerlines have already been constructed on these corridors, at a time when no archaeological investigations were being mandated by either the Forest Service or the State Historic Preservation Office. Since that time some portions of the Santee Cooper corridors have been incorporated in other archaeological studies. Although no new construction is currently anticipated, this survey of those portions not previously investigated was required by the Forest Service as part of the easement renewal process by Santee Cooper.

The first section is identified as Compartment 2, Tract F 1260 about 1.5 miles east of St. Stephens. This corridor, 200 feet in width (with about 175 feet cleared) is a total of 950 feet in length and runs from the Forest Service property, about 1,500 feet north of SC 45, to the marsh and lowlands at the edge of the Santee Cooper Diversion Canal. The second corridor is identified as Compartment 25, Tract F 76 about 0.5 mile southeast of Bonneau. This corridor, about 6390 feet in length, is also 200 feet in width, although only about 175 feet of this width are cleared. The corridor runs from S-53 southwesterly to Forest Service Road 115. The third segment of this survey involved a corridor in Compartment 26, identified as Tract F 113a. Here the corridor is about 5,800 feet in length, running from the west side of US 52 southwesterly, crossing S-52, to the Seaboard Coast Line Railroad. Only the 115kV transmission lines run on this corridor, so it is 100 feet in width, with a total cleared width of about 80 feet.

Much of these corridors is found on low, poorly drained soils. The corridors have received impact from construction and continued maintenance. This archaeological investigation consisted of shovel testing in the center of the corridor at 100 and 200--foot intervals, depending on the nature of the soils. All fill was screened through ¼-inch mesh and the shovel tests were backfilled at the completion of the study.

Consultation with the S.C. Department of Archives and History reveals no National Register properties in the immediate area. The S.C. Institute of Archaeology and Anthropology reveals numerous archaeological sites in the general area of these corridors, although no sites are within the study tracts.

Our investigation revealed the location of one previously identified archaeological site and four isolated finds. Site 38BK233 is situated at the north end of the corridor in Compartment 2, Tract F 1260 and appears to represent a scatter of Middle Woodland remains on a ridge overlooking the Santee swamps.

The isolated finds, which include remains on all three corridors, include three sherds and two flakes.

Neither the site nor the isolated finds appear to possess the data sets necessary to address substantive research questions appropriate for the Francis Marion National Forest. With the approval of the U.S. Forest Service and concurrence of the State Historic Preservation Office no additional management activities are recommended for the road corridor.

It is possible that archaeological remains may be encountered in the corridor during construction. Construction crews should be advised to report any discoveries of concentrations of artifacts (such as bottles, ceramics, or projectile points) or brick rubble to the project engineer, who should in turn report the material to the National Forest Service's Heritage Program Manager or to Chicora Foundation. No construction should take place in the vicinity of these late discoveries until they have been examined by an archaeologist.

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ACKNOWLEDGMENTS

I want to thank Mr. Tom Covington and Ms. Autumn Perkins of our staff who were responsible for assembling the background information for this project. I appreciate their dedication and thoroughness.

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I also want to thank Mr. Robert Morgan, Archaeologist with the U.S. Forest Service for his assistance in obtaining the necessary ARPA Special Use Permit for this work, as well as assistance in collecting background information and in reviewing the final document.

Finally, I want to thank Santee Cooper for their concern regarding the cultural resources of South Carolina, as well as their support of Chicora Foundation.

INTRODUCTION

Project Background

This work was conducted for Mr. Isaac Green, Santee Cooper, by Dr. Michael Trinkley, with assistance from Ms. Rachel Campo, of Chicora Foundation. The project involves the archaeological survey of three short sections of Santee Cooper power line easements crossing the Francis Marion National Forest in the Bonneau and St. Stephens area of Berkeley County (Figures 1 and 2). The powerlines have already been constructed on these corridors, at a time when no archaeological investigations were being mandated by either the Forest Service or the State Historic Preservation Office. Since that time some portions of the Santee Cooper corridors have been incorporated in other archaeological studies. Although no new construction is currently anticipated, this survey of those portions not previously investigated was required by the Forest Service as part of the easement renewal process by Santee Cooper. The corridors are currently used for the Jefferies (Pinopolis) to Kingstree 230kV and Jefferies (Pinopolis) to Kingstree 115kV transmission lines.

The project is situated in east central Berkeley County, on lands controlled by the Francis Marion National Forest. Three specific survey corridors are investigated by this study.

The first is identified as Compartment 2, Tract F 1260 about 1.5 miles east of St. Stephens. This corridor, 200 feet in width (with about 175 feet cleared) is a total of 950 feet in length and runs from the Forest Service property, about 1,500 feet north of SC 45, to the marsh and lowlands at the edge of the Santee Cooper Diversion Canal.

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The third segment of this survey involved a corridor in Compartment 26, identified as Tract F 113a. Here the corridor is about 5,800 feet in length, running from the west side of US 52 southwesterly, crossing S-52, to the Seaboard Coast Line Railroad. Only the 115kV transmission lines run on this corridor, so it is 100 feet in width, with a total cleared width of about 80 feet.

This survey did not include any portions of these transmission lines off Francis Marion lands. The investigations were conducted under an Archaeological Resources Protection Act Special Use Permit granted by the U.S. Department of Agriculture, Forest Service, on November 1, 1999 (signed by Mr. Don Kinerson, District Ranger). This study is identified by the Forest Service as number 00-03, which is the fiscal year in which the work was conducted (2000), followed by the number of the report (03). The field investigations were conducted by Dr. Michael Trinkley and Ms. Rachel Campo on November 29. A total of 14.5 person hours were spent on-site conducting the survey.

Natural Environment

Berkeley County is situated in the lower Atlantic Coastal Plain of South Carolina. Containing about 1,100 square miles, it is bordered by Georgetown County to the northeast, Charleston County to the southeast and southwest, Dorchester County to the west, Orangeburg County to the northwest, and Clarendon and Williamsburg counties to the north.

The topography of the country is characterized by subtle undulations characteristic of beach ridge plains. The elevations range from sea level to

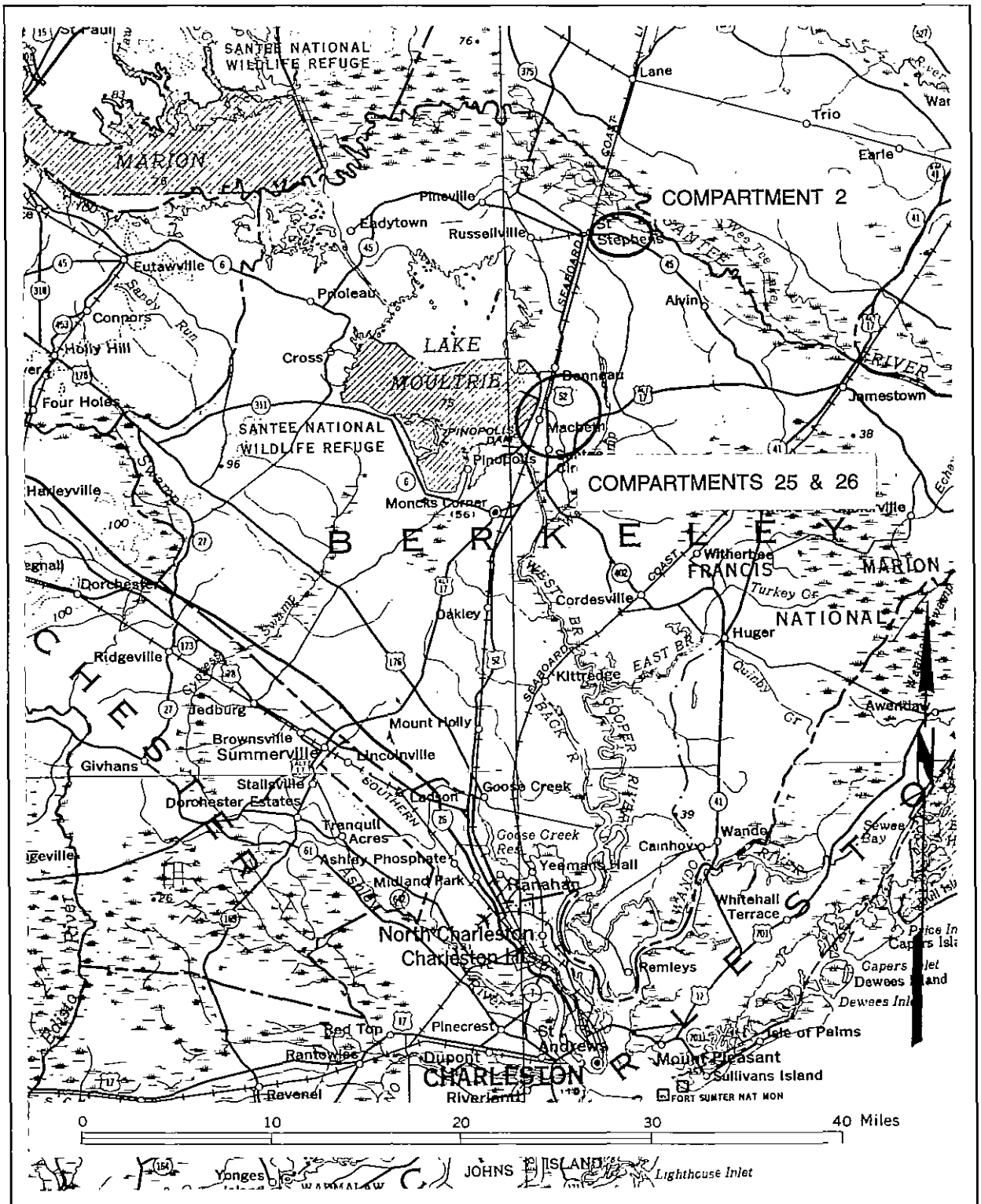

Figure 1. Project vicinity in Berkeley County, South Carolina (basemap is USGS South Carolina 1:500,000).

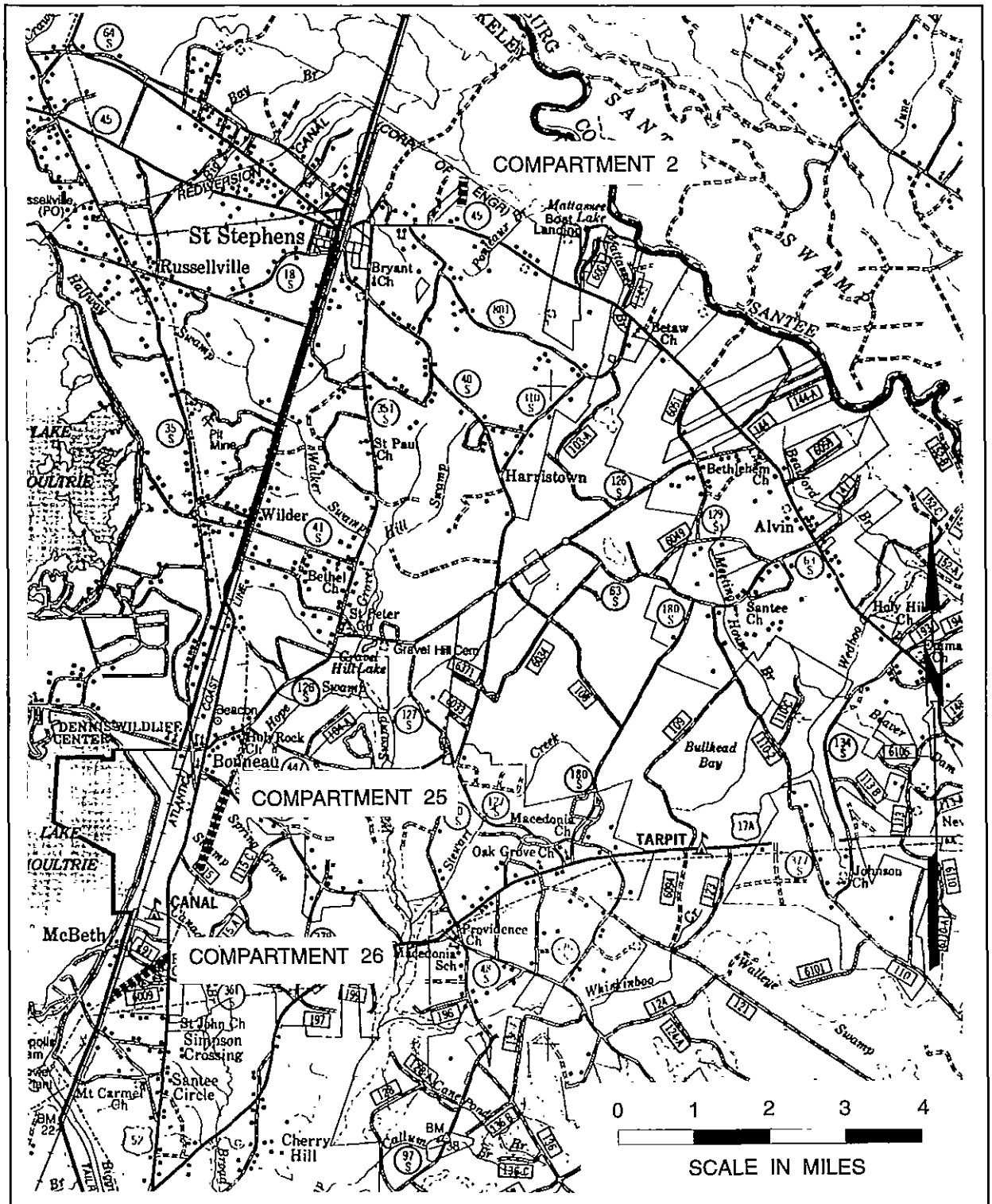

Figure 2. Project area showing the location of the three survey tracts (basemap is USDA, Forest Service, Francis Marion National Forest).

approximately 105 feet above mean sea level (AMSL). In the vicinity of these three study areas the elevations range from about 50 feet to 70 AMSL. The topography is generally level, especially in the more southerly two tracts. The one corridor adjacent to the Santee Cooper Diversion Canal exhibits more topographic relief, with rolling hills near the lowlands.

Berkeley is drained by three significant river systems: the Santee, Wando, and Cooper rivers. The Santee has a large freshwater discharge and forms the northern boundary with neighboring Georgetown County. The Wando is a coastal river, being dominated by tidal action. The Cooper River, which flows through the center of the County, was also originally a tidal river, but it has been modified by a large volume of fresh water diverted from the Santee through Lakes Marion and Moultrie. In addition, there are a number of broad, low-gradient interior drainages that are present either as extensions of tidal streams or flooded bays and swales.

Significant drainages in the study area include the Santee River (dominating the first survey tract), and Spring Grove Swamp, Canady Branch, and the Cooper River. In addition, the area includes a number of very wet, lowland areas dominated by Tupelo-Gum and Cypress forests formed from low interior swales or drainages.

As previously mentioned, Berkeley County is made up of one broad physiographic area, often called the lower Atlantic Coastal Plain or the Atlantic Coast Flatwoods. The surface soils are almost entirely sedimentary and were transported into the area from elsewhere. The geology of Berkeley County is characteristic of the region; the formations covering the surface date from the Pleistocene and include sands, clays, gravels, and phosphates.

Most of the county is covered with broad areas of nearly level to gently sloping loamy to clayey soils. On the flood plains these soils are usually subject to at least occasional, and often frequent, flooding. In fact, Long (1980:1) reveals that fully 95% of the soils in the county have excess water in their profiles. Major soil series include Meggett, Goldsboro, Bonneau, Craven, Wahee, Duplin, Bethera, and Tawcaw. The soils in lower Berkeley are part of the Wahee-Duplin-Lenoir association. They tend to be somewhat poorly to moderately well drained and have a loamy surface layer with a clayey subsoil.

On the first corridor, in Compartment 2, Tract F 1260, the dominant soil is Caroline fine sandy loam with 2 to 6% slopes. These soils are well drained and formed in clayey Coastal Plain sediments. They have an A horizon of dark grayish brown (10YR4/2) fine sandy loam about 0.3 foot in depth overlying an A21 horizon of yellowish brown (10YR5/4) sandy loam to about 0.7 foot. Below is an A22 horizon of yellowish brown (10YR5/6) sandy loam to a depth of about 1.3 feet. This rests on a B horizon of red (5YR5/8) sandy clay loam. We found this profile generally consistent throughout the corridor, although there was considerable erosion, with reduction or loss of overlying A horizons (Long 1980:13-14).

On the second corridor, in Compartment 25, Tract F 76, four different soil series are present. At either end of the tract are Lynchburg fine sandy loams, which are somewhat poorly drained soils formed in loamy Coastal Plain sediments. They tend to exhibit A horizons to 0.6 foot consisting of black (10YR2/1) grading into light yellowish brown (2.5YR6/4) sand. Below is a B horizon of yellowish brown (10YR5/4) sand overlying gray subsoils. The Ocilla soils are very similar, also being somewhat poorly drained, although they exhibit a somewhat darker A and B horizon. The Rains and Coxville soils, in contrast, are both poorly drained. They tend to have a black (N2/0) A horizon, grading into a gray (10YR5/1), with the Coxville soils tending to be more clayey (Long 1980:15-16, 21-22, 24-25, 27-28). All of these soils may have seasonal high water tables ranging from the surface to a foot below the surface.

The third segment, Compartment 26, Tract F 113a, also consists of four soil series. At the northern end is Bonneau soils, typically found on broad ridges and usually well drained. The A horizon, very dark grayish brown (2.5YR3/2) loamy sand grading into light yellowish brown (2.5YR6/4) loamy sand, is about 0.6 foot in depth and overlies an A22 horizon of light yellowish brown (2.5YR6/4) sand to nearly 2.0 feet. The Goldsboro soils, found at the southern end of the tract, are moderately well drained and are formed in

loamy Coastal Plain sediments. The A horizon is very similar to that of the Bonneau, only slightly thinner. The Lynchburg soils have been previously discussed, and tend to be somewhat poorly drained. The final soil series on this corridor are the Pinckney loamy fine sands. These soils are very poorly drained and have a surface layer of black loamy fine sand to at least 3 feet in depth (Long 1980:10-11, 18-19, 26-27). The Pinckney soils are frequently flooded, while the Bonneau and Goldsboro soils tend to have water tables at least 2.5 to 3 feet below the surface.

Berkeley County has a subtropical climate, characterized by warm summers, mild winters, and adequate precipitation fairly evenly spread throughout the year. Except in the summer, when maritime tropical air controls the climate of the area, the daily weather patterns are controlled by west to east moving pressure systems and associated fronts.

Yearly precipitation averages 47 inches, but ranges from 39 to 55 inches. The growing season, from April to September, receives an average of 31 inches or about 66% of the yearly total. The average length of the freeze-free growing season is approximately 260 days, although frosts can occur as early as October 26 and as late as April 15 (Long 1980:46).

Mills remarked in 1826 that Carolina was similar to European climates, lying at a similar latitude. He noted that:

> in comparing the climate of South Carolina, with similar climates in Europe, we find it lying under the same atmospheric influences with Aix, Rochelle, Montpelier, Lyons, Bordeaux, and other parts of France; with Milan, Turin, Padua, Mantua, and other parts of Italy (Mills 1972 [1826]:133).

The coastal region is a moderately high risk zone for tropical storms, with 169 hurricanes being documented from 1686 to 1972 (0.59 per year) (Mathews et al. 1980:56). One of the most devastating in the eighteenth century was the hurricane of September 15, 1752. One report listed 92 people drowned, although the death toll, especially among the African American slaves was likely much higher. The storm also had considerable long-term effects and Calhoun notes that:

> the destruction of trees was severe; one plantation owner's loss was assessed at $50,000 and many of those trees which survived were "heart-shaken," and unfit for use. Crops were even more damaged as the storm followed a severe drought. It was necessary to enact laws to regulate the exportation and sale of corn, "Peafe," and small rice, so that "the poor may be able to purchase Provisions at a moderate Price" (Calhoun 1983:9).

Speaking of the coastal plain Braun observed that:

> the vegetation of this region is in part warm temperate-subtropical, in part distinctively coastal plain, and in part temperate deciduous. It is made up of widely different forest communities - coniferous, mixed coniferous and hardwood, deciduous hardwood, and mixed deciduous and broad-leaved evergreen hardwood - interrupted here and there by swamps, bogs, and prairies. The large number of unlike communities is related to the diverse environmental conditions of the region (Braun 1974:282)

Indeed, an examination of the region around Berkeley County reveals tremendous diversity. One detailed study revealed a mosaic including the oak-hickory-pine forest common to upland areas, oak-gum-bald cypress forest typical of the southern floodplains, pine forests found in mesic to xeric upland sites, mesophytic broadleaved forests on more mesic slope sites, old rice fields, and a variety of swamp forests such as the tupelo-cypress, low hardwood, and ridge hardwoods (Federal Power Commission 1977). All of these forest types have

different dominants and different understory vegetation (see Barry 1980).

In the project area the corridor was almost entirely cleared for the powerline construction and the dominant vegetation was broomstraw, brambles, or low grasses. Adjacent areas, however, consisted primarily of pine on the drier soils and mixed hardwoods, especially tupelo or sweet gum, on the lower and wetter elevations.

Prehistoric and Historic Synthesis

The Prehistoric

The Paleo-Indian period, lasting from 12,000 to 8,000 B.C., is evidenced by basally thinned, side-notched projectile points; fluted, lanceolate projectile points, side scrapers, end scrapers; and drills (Coe 1964; Michie 1977; Williams 1968). The Paleo-Indian occupation, while widespread, does not appear to have been intensive. Artifacts are most frequently found along major river drainages, which Michie interprets to support the concept of an economy "oriented towards the exploitation of now extinct mega-fauna" (Michie 1977:124).

Unfortunately, little is known about Paleo-Indian subsistence strategies, settlement systems, or social organization. Generally, archaeologists agree that the Paleo-Indian groups were at a band level of society (see Service 1966), were nomadic, and were both hunters and foragers. While population density, based on the isolated finds, is thought to have been low, Walthall suggests that toward the end of the period, "there was an increase in population density and in territoriality and that a number of new resource areas were beginning to be exploited" (Walthall 1980:30).

The Archaic period, which dates from 8000 to 2000 B.C., does not form a sharp break with the Paleo-Indian period, but is a slow transition characterized by a modern climate and an increase in the diversity of material culture. Associated with this is a reliance on a broad spectrum of small mammals, although the white tailed deer was likely the most commonly exploited mammal. The chronology established by Coe (1964) for the North Carolina Piedmont may be applied with little modification to the South Carolina coastal plain and piedmont. Archaic period assemblages, exemplified by corner-notched and broad-stem projectile points, are fairly common, perhaps because the swamps and drainages offered especially attractive ecotones.

In the Coastal Plain of the South Carolina there is an increase in the quantity of Early Archaic remains, probably associated with an increase in population and associated increase in the intensity of occupation. While Hardaway and Dalton points are typically found as isolated specimens along riverine environments, remains from the following Palmer phase are not only more common, but are also found in both riverine and interriverine settings. Kirks are likewise common in the coastal plain (Goodyear et al. 1979).

The two primary Middle Archaic phases found in the coastal plain are the Morrow Mountain and Guilford (the Stanly and Halifax complexes identified by Coe are rarely encountered). Our best information on the Middle Woodland comes from sites investigated west of the Appalachian Mountains, such as the work in the Little Tennessee River Valley. The work at Middle Archaic river valley sites, with their evidence of a diverse floral and faunal subsistence base, seems to stand in stark contrast to Caldwell's Middle Archaic "Old Quartz Industry" of Georgia and South Carolina, where axes, choppers, and ground and polished stone tools are very rare.

The Late Archaic is characterized by the appearance of large, square stemmed Savannah River projectile points (Coe 1964). These people continued the intensive exploitation of the uplands much like earlier Archaic groups. The bulk of our data for this period, however, comes from work in the Uwharrie region of North Carolina.

The Woodland period begins by definition with the introduction of fired clay pottery about 2000 B.C. along the South Carolina coast (the introduction of pottery, and hence the beginning of the Woodland period, occurs much later in the Piedmont of South Carolina). It should be noted that many researchers call the period from about 2500 to 1000 B.C. the Late Archaic because of a perceived continuation of the Archaic lifestyle in spite of the manufacture of pottery.

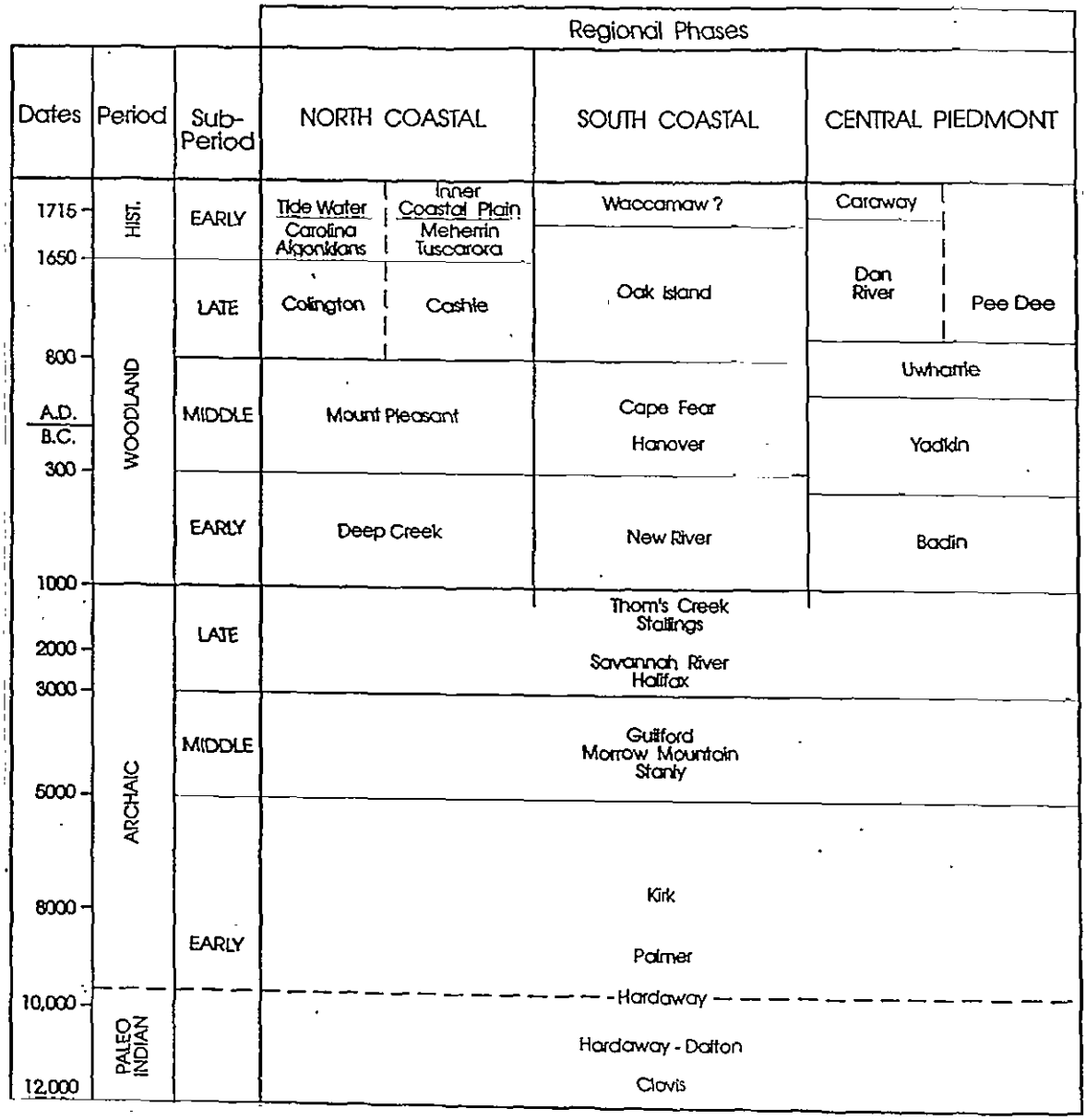

Figure 3. Cultural periods along the coast of South Carolina.

Regardless of terminology, the period from 2500 to 1000 B.C. is well documented on the South Carolina coast and is characterized by Stallings (fiber-tempered) pottery (see Figure 3 for a synopsis of Woodland phases and pottery designations). The subsistence economy during this early period was based primarily on deer hunting and fishing, with supplemental inclusions of small mammals, birds, reptiles, and shellfish.

Like the Stallings settlement pattern, Thom's Creek sites are found in a variety of environmental zones and take on several forms. Thom's Creek sites are found throughout the South Carolina Coastal Zone, Coastal Plain, and up to the Fall Line. The sites are found into the North Carolina Coastal Plain, but do not appear to extend southward into Georgia.

In the Coastal Plain drainage of the Savannah River there is a change of settlement, and probably subsistence, away from the riverine focus found in the Stallings Phase (Hanson 1982:13; Stoltman 1974:235-236). Thom's Creek sites are more commonly found in the upland areas and lack evidence of intensive shellfish collection. In the Coastal Zone large, irregular shell middens, small, sparse shell middens; and large "shell rings" are found in the Thom's Creek settlement system.

The Deptford phase, which dates from 1100 B.C. to A.D. 600, is best characterized by fine to coarse sandy paste pottery with a check stamped surface treatment. The Deptford settlement pattern involves both coastal and inland sites.

Inland, sites such as 38AK228-W, 38LX5, 38RD60, and 38BM40 indicate the presence of an extensive Deptford occupation on the Fall Line and the Coastal Plain, although sandy, acidic soils preclude statements on the subsistence base (Anderson 1979; Ryan 1972; Trinkley 1980b). These interior or upland Deptford sites, however, are strongly associated with the swamp terrace edge, and this environment is productive not only in nut masts, but also in large mammals such as deer. Perhaps the best data concerning Deptford "base camps" comes from the Lewis-West site (38AK228-W), where evidence of abundant food remains, storage pit features, elaborate material culture, mortuary behavior, and craft specialization has been reported (Sassaman et al. 1990:96-98).

Throughout much of the Coastal Zone and Coastal Plain north of Charleston, a somewhat different cultural manifestation is observed, related to the "Northern Tradition" (e.g., Caldwell 1958). This recently identified assemblage has been termed Deep Creek and was first identified from northern North Carolina sites (Phelps 1983). The Deep Creek assemblage is characterized by pottery with medium to coarse sand inclusions and surface treatments of cord marking, fabric impressing, simple stamping, and net impressing. Much of this material has been previously designated as the Middle Woodland "Cape Fear" pottery originally typed by South (1976). The Deep Creek wares date from about 1000 B.C. to A.D. 1 in North Carolina, but may date later in South Carolina. The Deep Creek settlement and subsistence systems are poorly known, but appear to be very similar to those identified with the Deptford phase.

The Deep Creek assemblage strongly resembles Deptford both typologically and temporally. It appears this northern tradition of cord and fabric impressions was introduced and gradually accepted by indigenous South Carolina populations. During this time some groups continued making only the older carved paddle-stamped pottery, while others mixed the two styles, and still others (and later all) made exclusively cord and fabric stamped wares.

The Middle Woodland in South Carolina is characterized by a pattern of settlement mobility and short-term occupation. On the southern coast it is associated with the Wilmington phase, while on the northern coast it is recognized by the presence of Hanover, McClellanville or Santee, and Mount Pleasant assemblages. The best data concerning Middle Woodland Coastal Zone assemblages comes from Phelps' (1983:32-33) work in North Carolina. Associated items include a small variety of the Roanoke Large Triangular points (Coe 1964:110-111), sandstone abraders, shell pendants, polished stone gorgets, celts, and woven marsh mats. Significantly, both primary inhumations and cremations are found.

On the Coastal Plain of South Carolina, researchers are finding evidence of a Middle Woodland

Yadkin assemblage, best known from Coe's work at the Doerschuk site in North Carolina (Coe 1964:25-26). Yadkin pottery is characterized by a crushed quartz temper and cord marked, fabric impressed, and linear check stamped surface treatments. The Yadkin ceramics are associated with medium-sized triangular points, although Oliver (1981) suggests that a continuation of the Piedmont Stemmed Tradition to at least A.D. 300 coexisted with this Triangular Tradition. The Yadkin series in South Carolina was first observed by Ward (1978, 1983) from the White's Creek drainage in Marlboro County, South Carolina. Since then, a large Yadkin village has been identified by DePratter at the Dunlap site (38DA66) in Darlington County, South Carolina (Chester DePratter, personal communication 1985) and Blanton et al. (1986) have excavated a small Yadkin site (38SU83) in Sumter County, South Carolina. Research at 38FL249 on the Roche Carolina tract in northern Florence County revealed an assemblage including Badin, Yadkin, and Wilmington wares (Trinkley et al. 1993:85-102). Anderson et al. (1982:299-302) offer additional typological assessments of the Yadkin wares in South Carolina.

Over the years the suggestion that Cape Fear might be replaced by such types as Deep Creek and Mount Pleasant has raised considerable controversy. Taylor, for example, rejects the use of the North Carolina types in favor of those developed by Anderson et al. (1982) from their work at Mattassee Lake in Berkeley County (Taylor 1984:80). Cable (1991) is even less generous in his denouncement of ceramic constructs developed nearly a decade ago, also favoring adoption of the Mattassee Lake typology and chronology. This construct, recognizing five phases (Deptford I - III, McClellanville, and Santee I), uses a type variety system.

Regardless of terminology, these Middle Woodland Coastal Plain and Coastal Zone phases continue the Early Woodland Deptford pattern of mobility. While sites are found all along the coast and inland to the Fall Line, shell midden sites evidence sparse shell and artifacts. Gone are the abundant shell tools, worked bone items, and clay balls. Recent investigations at Coastal Zone sites such as 38BU747 and 38BU1214, however, have provided some evidence of worked bone and shell items at Deptford phase middens (see Trinkley 1990).

In many respects the South Carolina Late Woodland may be characterized as a continuation of previous Middle Woodland cultural assemblages. While outside the Carolinas there were major cultural changes, such as the continued development and elaboration of agriculture, the Carolina groups settled into a lifeway not appreciably different from that observed for the previous 500 to 700 years (cf. Sassaman et al. 1990:14-15). This situation would remain unchanged until the development of the South Appalachian Mississippian complex (see Ferguson 1971).

The South Appalachian Mississippian Period (ca. A.D. 1100 to 1640) is the most elaborate level of culture attained by the native inhabitants and is followed by cultural disintegration brought about largely by European disease. The period is characterized by complicated stamped pottery, complex social organization, agriculture, and the construction of temple mounds and ceremonial centers. The earliest phases include the Savannah and Pee Dee (A.D. 1200 to 1550).

Historic Overview

The English established the first permanent settlement in what is today South Carolina in 1670 on the west bank of the Ashley River. Like other European powers, the English were lured to "new World" for reasons other than the acquisitions of land and promotion of agriculture. The Lords Proprietors, who owned the colony until 1719-1720, intended to discover a staple crop whose marketing would provide great wealth through the mercantile system.

By 1680 the settlers of Albermarle Point had moved their village across the bay to the tip of the peninsula formed by the Ashley and Cooper rivers. This new settlement at Oyster Point would become modern-day Charleston. The move provided not only a more healthful climate and an area of better defense, but:

> the situation of this Town is so convenient for public Commerce that it rather seems to be the design of some skillful Artist than the

> accidental position of nature (Mathews 1954:153).

The early settlers of the Carolina colony came from other mainland colonies, England, and the European continent. But the future of Carolina was largely directed by the large number of colonists from the English West Indies. This Caribbean connection has been discussed by Waterhouse (1975), who argues that the Caribbean immigrants were largely from old families of economic and political prominence which formed the Barbados élite. Waterhouse observes that while elsewhere in the American colonies the early settled families were displaced from their established positions of power and economic superiority by newcomers, this did not occur in South Carolina. In Carolina:

> a relatively large proportion of those who, in the middle of the eighteenth century, were among the wealthier inhabitants, were descended from those families who had arrived in the colony during the first twenty years of its settlement (Waterhouse 1975:280).

This immigration turned out to be a significant factor in the stability and longevity of South Carolina's colonial élite. It also firmly established the foundations of slavery and cash crop plantations.

Many of these Barbadian immigrants settled in the Goose Creek area, forming one of the most influential political and economic groups in the colony (Stoney 1938:19). The "Goose Creek Men" included individuals such as Maurice Mathews, James Moore and John Boone. They favored increased Indian slavery, trade with the pirates or privateers that sailed the Carolina coast, and generally ignored the efforts of the Lords Proprietors to control the Colony's economic and political future. While the political power of the Goose Creek faction peaked in the 1720s, it continued to evidence considerable economic power well into the late 1740s (see Morgan 1980; Sirmans 1966).

Early agricultural experiments which involved olives, grapes, silkworms, and oranges were less than successful. While the Indian trade was profitable to many of the Carolina colonies, it did not provide the Proprietors with the wealth they were expected from the new colony. This trade was also limited since the Indian population was so dramatically reduced by European disease, the sale of alcohol, and slavery.

Cattle raising also was an easy way to exploit the region's land and resources, offering a relatively secure return for very little capital investment. Few slaves were necessary to manage the herd. The mild climate of the low country made winter forage more abundant and winter shelters unnecessary. The salt marshes on the coast, useless for other purposes, provided excellent grazing and eliminated the need to provide salt licks. More interior swamps found similar vegetation and provided a constant water supply (Coon 1972; Dunbar 1961). Production of cattle, hogs, and sheep quickly outstripped local consumption and by the early eighteenth century beef and pork were principal exports of the Colony to the West Indies (Ver Steeg 1975:114-116). This allowed the ties between Carolina and the Caribbean to remain strong, and provided essential provisions to the large scale, single crop plantations.

Rice and indigo both competed for the attention of Carolina planters. Although introduced at least by the 1690s, rice did not become a significant staple crop until the early eighteenth century. At that time it not only provided the Proprietors with the economic base the mercantile system required, but it was also to form the basis of South Carolina's plantation system — slavery.

South Carolina's economic development during the pre-Revolutionary War period involved a complex web of interactions between slaves, planters, and merchants. By 1710 slaves were starting to be concentrated on a few, large slave-holding plantations. By the close of the eighteenth century some South Carolina plantations had a ratio of slaves to whites that was 27:1 (Morgan 1977). And by the end of the century over half of eastern South Carolina's white population held slaves. With slavery came, to many, unbelievable wealth. Coclanis notes that:

> on the eve of the American

> Revolution, the white population of the low country was by far the richest single group in British North America. With the area's wealth based largely on the expropriation by whites of the golden rice and blue dye produced by black slaves, the Carolina low country had by 1774 reached a level of aggregate wealth greater than that in many parts of the world even today. The evolution of Charleston, the center of the low-country civilization, reflected not only the growing wealth of the area but also its spirit and soul (Coclanis 1989:7).

Only certain areas of the low country, however, were suitable for rice production. During the early years rice was grown as an upland crop, in small fields adjacent to freshwater streams where water could be easily impounded and applied to the crop. By the early 1700s planters found that upland swamps, such as those in the Goose Creek area, were even better suited for rice, although the soils were quickly exhausted (Meriwether 1940; Sellers 1934). These upland swamps, distinct from well-drained uplands, remained the focus of Carolina rice agriculture during the entire Colonial period.

Hewatt, writing in 1779, describes the process of upland swamp rice cultivation:

> after the planter has obtained his tract of land, and built a house upon it, he then begins to clear his field of that load of wood with which the land is covered. Having cleared his field, he next surrounds it with a wooded fence, to exclude all hogs, sheep, and cattle from it. This field he plants with rice . . . year after year, until the lands are exhausted, or yield not a crop sufficient to answer his expectations. Then it is forsaken, and a fresh spot of land is cleared and planted, with is also treated in like manner, and in succession forsaken and neglected (Hewatt 1836:514).

This rather simplistic commentary failed to observe the engineering feat that upland swamp rice cultivation really was. Clearing, which alone was a monumental undertaking, was followed by the construction of dams, dikes, and trenches. By one estimate, a 500 acre rice field required 60 miles of dikes and ditches (Gunn 1976:1-16). Fields were carefully leveled to ensure that they could be completely covered by water. Rice was planted during two periods -- March 10 to April 10 and June 1 to June 10 -- avoiding May since vast migrations of "rice birds" passed through the state during that period and could destroy a crop. Rice was harvested in late August.

By 1730 the majority of the population of the colony, both rural and urban, was black (Wood 1974). By 1850, 46% of Charleston District's population (which included today's Berkeley County) consisted of African American slaves (DeBow 1854:302), although Hilliard (1984:37) indicates that more than 60% of the Charleston slaveholders by 1860 owned fewer than 10 slaves. Regardless, there remained vast plantations where the owner's wealth was achieved by the labor of black slaves.

During the eighteenth century the profits to be gained from rice were extraordinary, ranging from a 12% to nearly 28% net return on the investment, well exceeding other cash crops, such as tobacco or indigo (see Coclanis 1989:141). Charleston was the mecca around which the economic, political, and social world of Carolina revolved. Charleston provided the essential opportunity for conspicuous consumption, a mechanism which allowed the display of wealth accumulated from the plantation system.

By the end of the eighteenth century, beginning of the nineteenth century, the rate of return on rice had been reduced, at best, to about 2%, and many years the rate of return was a staggering -3% to -7%. In 1859, just before the Civil War, the return is reported to have been -28%. As Coclanis observes:

> the economy of the South Carolina low country collapsed in the nineteenth century. Collapse did not

> come suddenly - many feel, for example, that the area's "golden age" lasted until about 1820 - but come it did nonetheless. By the late nineteenth century it was clear that the forces responsible for the area's earlier dynamism had been routed, the dark victory of economic stagnation virtually complete (Coclanis 1989:111).

The plantation economy which originated during the eighteenth century continued into the nineteenth and gave rise to the numerous planters' settlements such as Cainhoy, Honey Hill, and Spring Hill. Situated on the sandy soils of the inner coastal plain, these settlements were thought to offer a more healthy climate than the coastal areas, especially those associated with rice cultivation.

The Civil War destroyed that lifestyle. Competition from states further west, several years of bad storms, and labor problems also doomed efforts to restore rice cultivation to its previous place of honor. By the late nineteenth century the region's economy was supported by phosphate mining and timbering. Williams and his colleagues (Williams et al. 1993) provide additional historical background for the St. Stephens area, noting that by the late nineteenth century the area was dominated by timbering, with lumber companies acquiring vast tracts prior to the twentieth century. Population began to be clustered around a series of small towns, such as St. Stephens and Bonneau, as well along the developing road system. However, much of the area is shown on period maps as unimproved and isolated.

Previous Investigations

There have been a very large number of archaeological studies conducted in the Berkeley County area. Syntheses of many are provided by other researchers, such as Adams (1990) and Anderson et al. (1982). Only a few of the more recent studies will be briefly mentioned in this overview.

Although work in the late 1970s was sporadic and not always of a uniform quality, surveys such as those conducted by the S.C. Institute of Archaeology and Anthropology at the Grove and Flagg plantations (Hartley and Stephenson 1975) began to reveal the complexity of the historic settlement in the region, while investigations such as that undertaken by Brooks and Scurry (1978) continue to be quoted for its exceptional documentation of prehistoric settlement criteria. The later, for example, reveals that while soil types are good *general* indicators of site probability, there are archaeological sites located on poorly drained soils. This, the authors point out, indicates that factors other than simply drainage, likely played some role in selecting camp sites.

Other studies, undertaken at about the same time, continued to reveal the complexity — and density — of sites in the region. Wood's (1977) examination of a transmission line from Mount Pleasant to the Cooper River area, revealed the diversity of the study area. Her work revealed the presence of both prehistoric (including perhaps contact period) and historic settlements. Although a reconnaissance survey by Lees and Michie (1978) failed to reveal the same density of sites, it nevertheless documented the range of sites that might be expected, suggesting that virtually any development on swamp margins would be likely to impact prehistoric sites.

It was in the mid to late 1970s that the SC Institute of Archaeology and Anthropology conducted several surveys of the area known at the time as the Cooper River Rediversion (Asreen 1974, Brockington 1980). This work, a pedestrian survey of the 2,000-foot wide diversion canal corridor, identified a total of 67 archaeological sites, including some which were outside (but in close proximity to) the corridor. This study found relatively few Archaic Period sites, but did find a fairly large number of small Woodland sites in "upland, non-riverine" areas. Most numerous were Middle Woodland Deptford sites.

As a conclusion to that work, three sites (38BK226, 38BK229, and 38BK246) were subjected to extensive testing and data recovery (Anderson et al. 1982). This work pioneered much of our understanding of coastal plain sites and, especially, began to bring some order to large quantity of Woodland pottery which previously had been often ignored. Although not on or

adjacent to the project corridor, this work was only about 1.5 miles to the east.

In the early 1980s Limerick Plantation was also briefly investigated. The plantation, created in 1707, was owned by the Ball family from 1764 until about 1891 (Lees 1980). Investigations concentrated on the main house (Lees 1980) where the architecture of the main house was the focus of the research. Additional effort was devoted to the exploration of the changing settlement pattern at the site. Later, additional research was devoted to nearby sites associated with the plantation. Most of this activity was devoted to the Tanner Road site, where Babson (1988) sought to examine the site's ethnicity and function.

During the mid-1980s Ferguson and Babson (1986) used historic plats to identify the range of plantation sites on the East Branch of the Cooper River. This study revealed about 250 buildings associated with 18 plantations. What is curious is that despite the extraordinary density of the individual settlements examined in this work, archaeologists continue to document only a very small handful of the structures likely to be present on any plantation complex.

The U.S. Forest Service produced an overview of the archaeology of the Francis Marion National Forest about this same time. This document provides a synthesis of forest research up to that time and explores many of the research topics which are still significant today (Anderson and Logan 1981).

Also during the mid-1980s there were a number of surveys conducted on U.S. Forest Service property in the immediate area. For example, Pasquill (1983) comments on both the ubiquity of tar kiln sites in the area, as well as the occasional identification of small graveyards. This work also reveals issues concerning the fragility of many sites — such as cemeteries — and how often they may be either damaged or destroyed by development activities. Another survey (Pasquill 1984), again reveals how common tar kilns are, although questions regarding eligibility might well be revisited in light of more recent issues concerning historic significance. His research also reveals the range of small prehistoric sites which are typically located on sandy ridges in the ridge and swale topography of the flat woods. Also of interest is the revelation concerning how many sites, both known and unknown, were being impacted by mechanized timber harvesting — providing one of the earliest insights into the rapid destruction of the area's cultural heritage.

In 1993 the Forest Service contracted with New South Associates for a study of nearly 3,400 acres in the St. Stephens area (Williams 1993). This survey included portions of Compartment 2 along the Santee River (where 128 acres were surveyed), Compartment 25 east of Bonneau (where 70 acres were surveyed), and Compartment 26 in the Macbeth area (where 97 acres were surveyed). This study represents the most intensive investigation of areas in close proximity to this study and provides not only additional background information, but also comparative data. A total of 71 cultural resources were identified during those investigations, including 56 archaeological sites and 15 isolated finds. Compartment 2 contributed six cultural resources, Compartment 25 contributed three cultural resources, while Compartment 25 yielded an additional four resources.

The resources found by Williams and his colleagues date primarily from the Middle Woodland, with relatively few Early Woodland or pre-ceramic remains being recovered. In addition, the vast majority of these sites were recovered either on the surface or within the upper foot. In fact only two of the 56 sites (2.8%) were identified in deposits deeper than 1.3 feet. Moreover, at least 59 of the sites (83.1%) were found within the upper 0.3 foot of the soil (Williams 1993:Table 7). In other words, few of the resources identified in this part of the Forest seem deeply buried.

The study also frequently comments on the poor drainage of the survey tract. Although some of these comments were no doubt associated with the heavy rainfall earlier in the survey year, it is also clear that much of the ground in this area is dominated by poorly drained soils. In fact, survey conditions were at times so poor that screening of soil was curtailed and attention was largely devoted to cleared ground and tree tipovers as a "rare opportunity for locating and defining both small and large sites based on surface scatters" (Williams et al. 1993:5).

Although the study does not specify the soils on which the sites are found, it does in most cases provide some comment on drainage in the site area. Nearly three-quarters of the identified sites and isolated finds were associated with soils described as well drained or moderately well drained. Even for those sites reported to be on poorly drained soils there was often a qualifier, noting for example that the site was found on a slight rise in an area of poorly drained soils — suggesting that the site drainage might actually be better than that of the surrounding soils.

Finally, the Cooper River Historic District, developed by Historic Charleston Foundation in conjunction with SCDAH, is situated about 5.0 miles to the southwest of the study area. This district is an extremely diverse collection of cultural resources associated with approximately 45 miles of the Cooper River. The proposed district, covering around 80,000 acres, has not been listed on the National Register, but has been determined eligible by the State Historic Preservation Officer.

The National Register nomination for the Cooper River District observes that:

> This 150 square mile area includes more than 70,000 acres. Within its bounds lay the oldest rural dwellings in South Carolina, a vast concentration of archaeological sites, and an agricultural and industrial history that serves as a paradigm for the development of the entire Lowcountry of South Carolina. The proposed Cooper River Historic District is a smaller area of the whole, which includes 164 above-ground historic sites/resources and 81 archaeological sites which contribute directly to this nomination.
>
> This largely intact collection of buildings, sites, structures, objects and landscape features have been and continue to be associated with the river itself and illustrate the continuing use and occupation of the area from the early settlement patterns of the late seventeenth century (ca. 1680) to the changing uses of the landscape in the early decades of the twentieth century (ca. 1940). The agricultural character of the region from naval stores to rice and indigo and later to hunting and tree farming was imposed on the natural setting and in turn produced a unique cultural landscape through the period of significance. The Cooper River Historic District meets all of the National Register criteria and is significant as a natural, historical and cultural landscape (Saunders and Poston 1998).

As such the district is of concern not only because of its size, but also because such districts can be impacted by a broad range of development pressures. Moreover, development activities should also examine what impact they will have on the landscape itself, rather than simply on the resources as physical entities.

METHODS

Background Investigations

Prior to conducting this investigation we contacted the State Historic Preservation Office for any information on National Register buildings, districts, structures, sites, or objects in the study area, as well as the results of any structures surveys which may have been completed in the project areas (fax to Dr. Tracy Power, dated November 24, 1999). We also contacted the S.C. Institute for Archaeology and Anthropology for information concerning any previously recorded archaeological sites in the immediate survey area. We also made an inquiry of the U.S. Forest Service, requesting any background information that was felt to be significant for this particular study (email to Mr. Robert Morgan, dated October 21, 1999).

Field Methods

The initially proposed field techniques involved the placement of shovel tests at 100 foot intervals along the centerline of the corridors. Only one transect, running down this centerline, was proposed since the corridors range from 80 to about 180 feet in cleared width. In areas of standing water or wetlands no shovel tests would be excavated.

All soil would be screened through ¼ inch mesh, with each test numbered sequentially. Each test would measure about 1 foot square and would normally be taken to a depth of at least 1.5 feet. All cultural remains would be collected, except for shell, mortar, and brick, which would be quantitatively noted in the field and discarded. Notes would be maintained for profiles at any sites encountered.

Should sites (defined by the presence of one or more artifacts from either surface survey or shovel tests within a 25 feet area) be identified by shovel testing, further tests would be used to obtain data on site boundaries, artifact quantity and diversity, site integrity, and temporal affiliation. These tests would be placed at 25 feet intervals in a simple cruciform pattern until negative shovel tests were encountered. The information required for completion of South Carolina Institute of Archaeology and Anthropology site forms would be collected and photographs would be taken, if warranted in the opinion of the field investigators.

This strategy was implemented with only two modifications. First, we discovered that several corridors exhibited considerable lengths of very wet soils with, in some cases, standing water 1 to 2 feet in depth. Consequently, we chose to adopt the strategy developed for the survey of other nearby Forest Service property. Williams and his colleagues (Williams et al. 1993:58) divided their survey areas into high, medium, and low probability zones, based on a variety of factors, but most significantly soil drainage. High probability areas were defined as those with well to moderately well drained soil, typically found on ridgetops and terraces. Low probability areas were defined as "swampy, low-lying areas with a drainage rating of poor to very poorly drained" (Williams et al. 1993:58). The medium probability zones were those falling mid-way between these two extremes.

For those areas identified as high probability zones, the survey relied on shovel testing at 100 foot intervals on transects spaced 100 feet apart. For the medium and low probability zones, shovel testing was conducted at 200 foot intervals on transects spaced 200 feet apart. As a result, our shovel tests were placed 100 feet apart when the soils appeared to be well drained to moderately well drained, but increased to 200 feet apart when the soils were wet. We found that there was an excellent correlation of soil profile development and probability zone. Where the soil profile was reduced, with black to gray soil horizons, the drainage was poor and the soils would be classified as low probability;

where the soils exhibited an oxidized profile, consisting of browns and yellows, the soils were well drained and were classified as at least moderately well drained. The areas which we classified as medium probability were largely better drained soils that were situated some distance from any water supply.

The only other modification of the operating plan concerned the number and placement of the transects. The corridors were not sufficiently wide to allow placement of two transects at 100 feet; but in several cases seemed sufficiently wide to warrant more attention than simply one transect. In those cases we chose to place one transect running down the center of the corridor, with supplemental shovel tests alternating approximately 75 feet to the right and left of this central line. This provided coverage in the central area, where the greatest impact will continue to take place, as well as allowed us to examine peripheral areas in a cost-effective manner.

Several of the corridors also possessed dirt access roads running along one or both sides of the transmission lines. When these roads were present (and they tended to be present except in those areas exhibiting very poor drainage and boggy soils), we conducted our normal shovel testing then walked the roads back out of the survey tract. This allowed additional pedestrian coverage for the better drained portions of the survey corridors.

In addition, where open, eroded, or denuded land was identified, additional time was spent expanding the pedestrian survey. Just as Williams and his colleagues (Williams et al. 1993:5) commented on the benefits of this sort of pedestrian survey, we also recovered several isolated finds from the survey tracts using this procedure which would otherwise not have been identified.

With these exceptions the originally proposed field techniques were implemented without incident. We did note, however, that at the time of our survey the soils were, in general, poorly drained. We also found abundant evidence — such as extensive rutting in many locations — that suggests these conditions are fairly typical for the survey area. As previously discussed, many of the soils are considered poorly drained and a number of the soil series have seasonal high water tables.

Williams and his colleagues (Williams et al. 1993:59) comment on the difficulty in assigning a strict definition for sites in the survey of nearby Forest Service tracts. In particular they observe that prehistoric sites in the area tend to exhibit sparse remains and, as a result, there has been a tendency to define sites on the basis of as few as four artifacts. Ultimately they decided that areas producing between "4 and 10 artifacts are being evaluated on a case-by-case basis to determine whether ground cover, site depth, or other factors effecting sampling should be considered" (Williams et al. 1993:59). In general, however, four or more artifacts were considered a site, while three or fewer were considered an "isolated find." No effort was made to attach any strict boundary limits to these definitions.

We have followed this approach in order to provide consistency in the survey data generated for Forest Service lands. We have, however, added the condition that the four or more artifacts must be found within a 25-foot radius in order to be considered a site.

Site Evaluation

Sites will be evaluated for further work based on the eligibility criteria for the National Register of Historic Places. Chicora Foundation only provides an opinion of National Register eligibility and the final determination is made by the lead federal agency (in this case the U.S. Forest Service) in consultation with the State Historic Preservation Officer at the South Carolina Department of Archives and History.

The criteria for eligibility to the National Register of Historic Places is described by 36CFR60.4, which states:

> the quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and

association, and

a. that are associated with events that have made a significant contribution to the broad patterns of our history; or

b. that are associated with the lives of persons significant in our past; or

c. that embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

d. that have yielded, or may be likely to yield, information important in prehistory or history.

National Register Bulletin 36 (Townsend et al. 1993) provides an evaluative process that contains five steps for forming a clearly defined explicit rationale for either the site's eligibility or lack of eligibility. Briefly, these steps are:

- identification of the site's data sets or categories of archaeological information such as ceramics, lithics, subsistence remains, architectural remains, or sub-surface features;
- identification of the historic context applicable to the site, providing a framework for the evaluative process;
- identification of the important research questions the site might be able to address, given the data sets and the context;
- evaluation of the site's archaeological integrity to ensure that the data sets were sufficiently well preserved to address the research questions; and
- identification of important research questions among all of those which might be asked and answered at the site.

This approach, of course, has been developed for use documenting eligibility of sites being actually nominated to the National Register of Historic Places where the evaluative process must stand alone, with relatively little reference to other documentation and where typically only one site is being considered.

Laboratory Analysis

The cleaning and analysis of artifacts was conducted in Columbia at the Chicora Foundation laboratories. These materials have been catalogued and accessioned for curation at the South Carolina Institute of Archaeology and Anthropology, the closest regional repository, at the request of the U.S. Forest Service. The site forms for the identified archaeological site and four isolated finds (discussed in the following section of this report) have been filed with the South Carolina Institute of Archaeology and Anthropology. Field notes have been prepared for curation using archival standards and will be transferred to the South Carolina Institute of Archaeology and Anthropology as soon as the project is complete. The only photographic materials taken were color prints. Since these are not archival, they have been temporarily retained by Chicora Foundation. Analysis of the collections followed professionally accepted standards with a level of intensity suitable to the quantity and quality of the remains.

RESULTS

Background Investigations

We have been informed by the S.C. State Historic Preservation Office that there are no National Register properties in the project area nor are there any previous architectural surveys (Dr. Tracy Power, personal communication 1999). Regardless, since the current powerline is fully constructed and no expansion is proposed, nor is any modification in its routine maintenance anticipated, its continued operation at the current level should have no additional impact on any historic sites in the project area. In other words, whatever impact the transmission line may have caused to the visual integrity or landscape of historic sites in the area, this intrusion has already occurred and no further impact will be caused by the re-licensing of its operation by the Forest Service. The proposed project will also have no direct, or foreseeable indirect, impact on the nearby Cooper River National Historic District. It has been operated for a number of years, so again, whatever development it has promoted or may allow, is already in-place and Santee Cooper is not proposing any expansion of the transmission line at this time.

Our investigations at the S.C. Institute of Archaeology and Anthropology revealed the number of both prehistoric and historic resources reported in the general area by the U.S. Forest Service and its contractors (as we have previously discussed). For example, around the survey tracts in Compartments 25 and 26, there are several dozen small sites, although the closest, 38BK140, 38BK853, and 38BK1220 are all at least 500 feet from the study tract. For the Compartment 2 vicinity there area number of sites found on the edge of the uplands, overlooking the Santee swamp lowlands. In particular, we discovered that site 38BK233, was situated within the survey corridor.

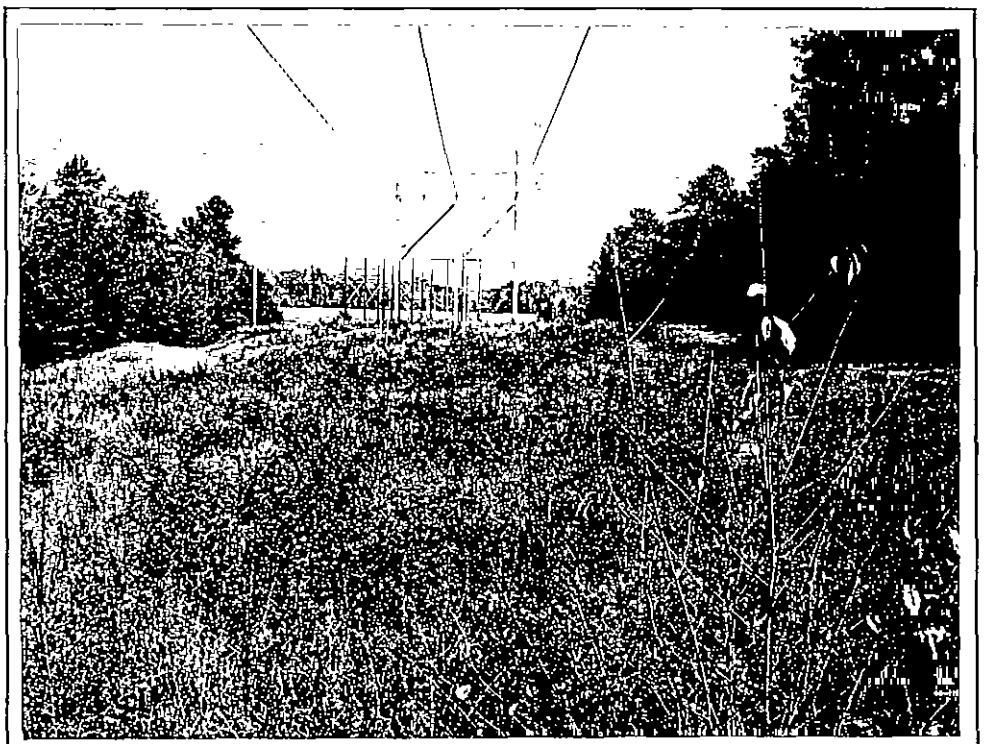

Figure 4. View of the rolling topography on the corridor in Compartment 2, Tract F 1260, view to the north.

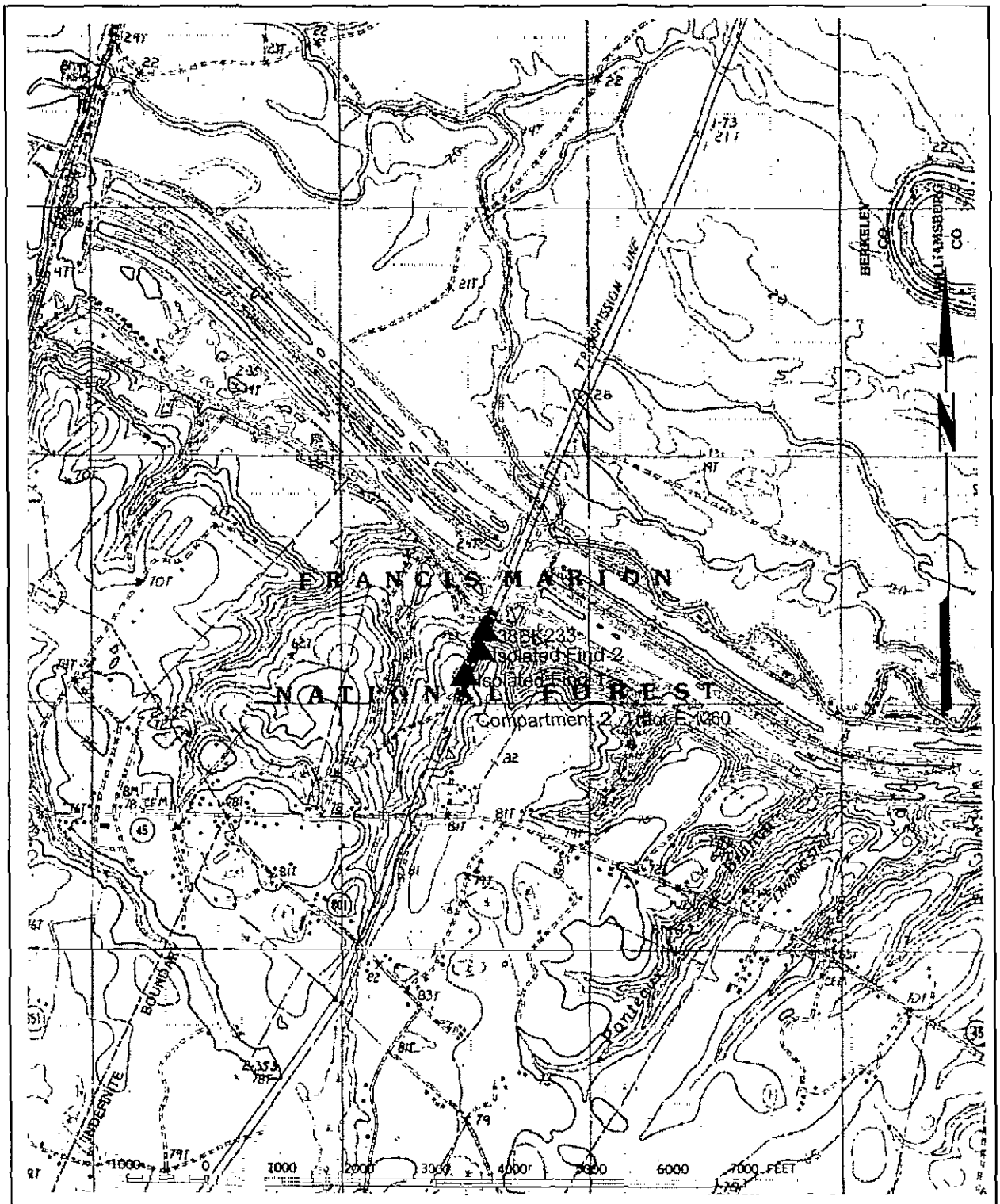

Figure 5. Portion of the St. Stephen's USGS topographic map showing the Compartment 2, Tract F 1260 survey corridor and identified sites.

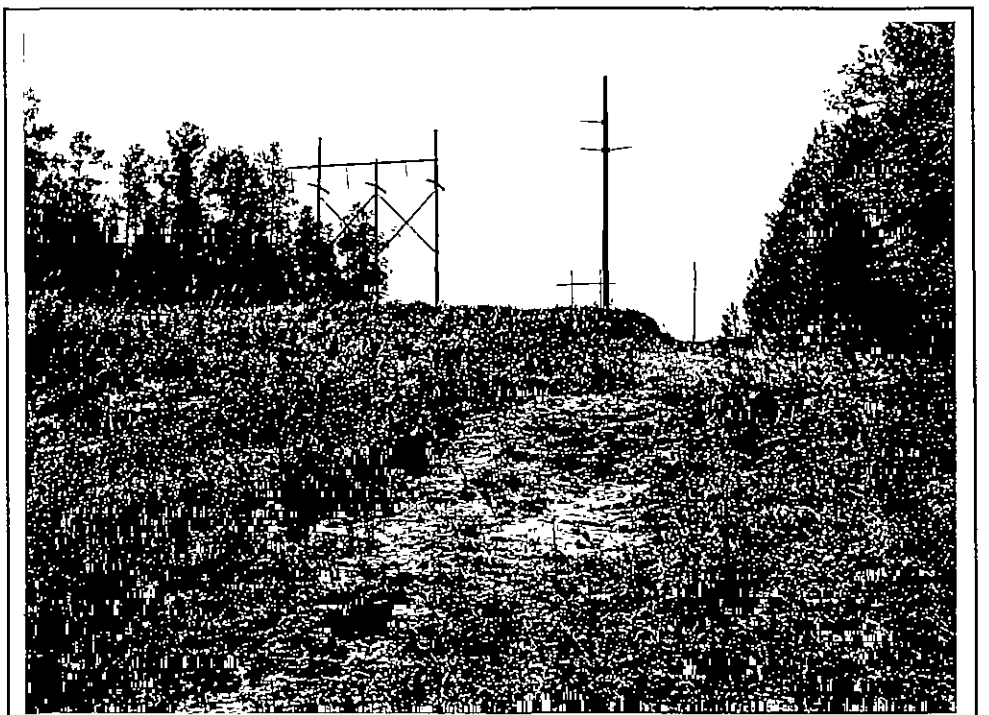

Figure 6. View of 38BK233 looking to the south showing erosion on the slope.

This site was identified during the 1977 survey of the "Cooper River Rediversion" and was situated "in a powerline right-of-way as it crosses the north sloping Santee swamp bluff" (Brockington 1980:76). The site was reported to cover an area 120 by 60 meters (390 by 195 feet) within the powerline corridor and a small collection of apparently Middle Woodland ceramics along with a much larger collection of "sandstone" (probably orthoquartzite) flakes. Although the site was thought to represent a camp or "small village," associated with the nearby swamp edge ecotone, it had been "badly disturbed by erosion and construction of the powerline" (Brockington 1980:76). As a result, no further study was recommended.

We were therefore aware of a number of sites in the general vicinity of the powerline corridors, with one site previously reported from our survey tract.

Archaeological Survey of the Corridor in Compartment 2, Tract F 1260

As previously discussed, this corridor measured about 950 feet in length and about 180 feet in width. Its southern boundary was denoted by a fence crossing the easement from the southwest to the northeast. This corridor was particularly rolling, with a relatively steep bluff overlooking the lowlands of the Division Canal at its northern end (Figures 4 and 5).

The study began with a pedestrian survey of the access road, which originated on the western side of the corridor, but at the northern end circled around to include disturbed ground on the eastern side for about 300 feet. These access roads provided about 50 to 100% surface visibility. In addition, at the northern end of the corridor there was an area of extensive erosion which also allowed an additional survey opportunity (Figure 6).

Shovel testing survey began at the northern end and extended southward at 100 foot intervals for the entire corridor length. A total of nine shovel tests were placed in the center of the corridor, with an additional five shovel tests placed 75 feet to the east or west of these central tests.

38BK233

The pedestrian survey reidentified the previously recorded archaeological site, 38BK233 situated at the north end of the corridor and found eroding from the bluff overlooking the lowlands where the Diversion Canal is now constructed. The central UTMs for this site are 602610E 3697510N and it is situated on Caroline soils. The elevation in this area range from about 40 to 50 feet, although it is likely

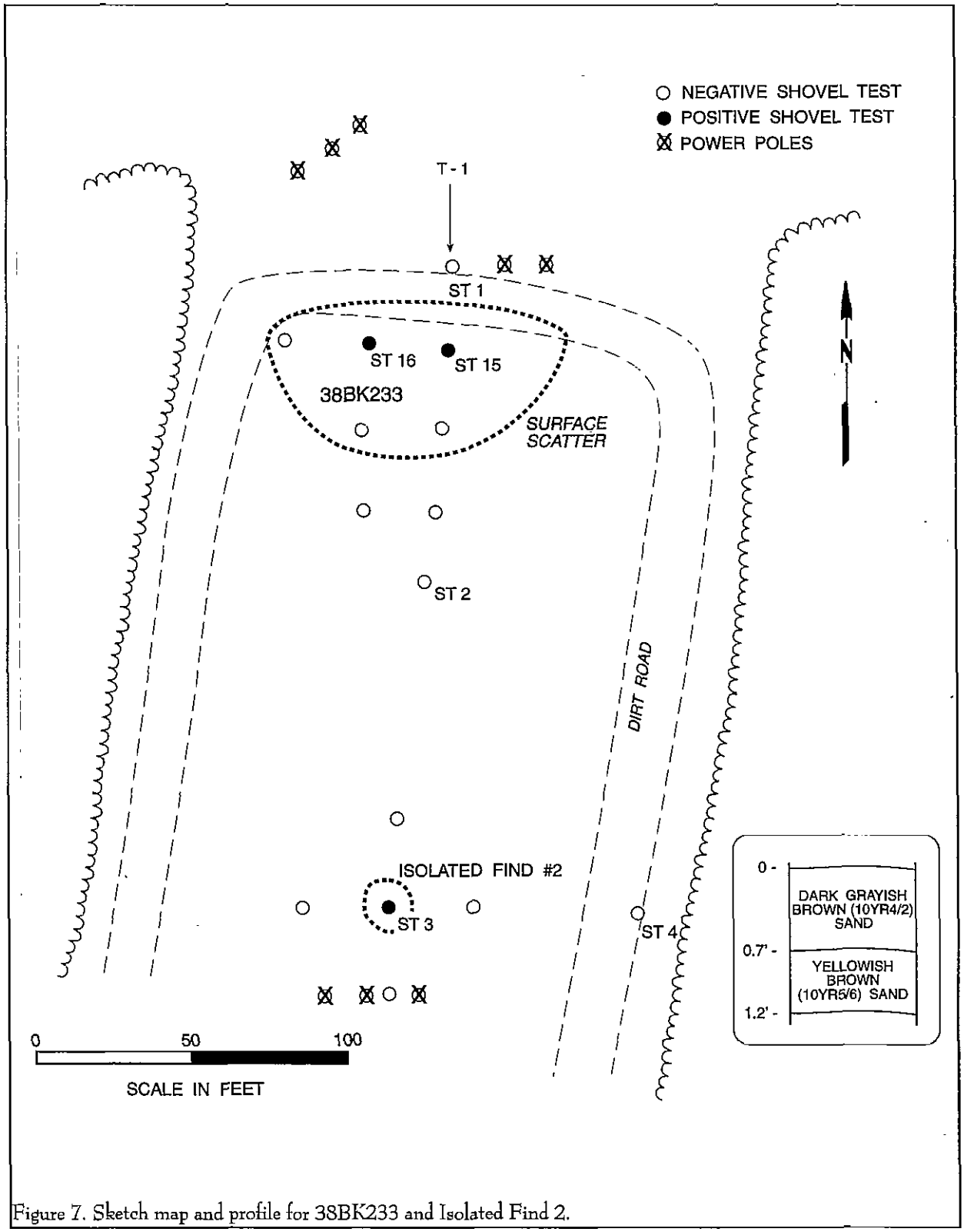

Figure 7. Sketch map and profile for 38BK233 and Isolated Find 2.

that much of the material found at the lower elevations may have eroded from higher on the slope. The vegetation in this part of the corridor is characterized by brambles and low grasses. Adjacent vegetation consists of a mixed pine and hardwood mesic forest (Figure 6).

The surface collection from this site produced six flakes, two sherds, and one biface fragment. The flakes include four rhylotic material and two orthoquartzites. The sherds are both examples of Deptford Plain (DePratter1979). The one biface fragment is a orthoquartzite midsection of a possible Guilford (Coe 1964:43-44). This assemblage is fairly consistent with the 1977 investigation, although there is greater diversity in raw materials and no bifaces (or possible Archaic materials) were reported from the original study.

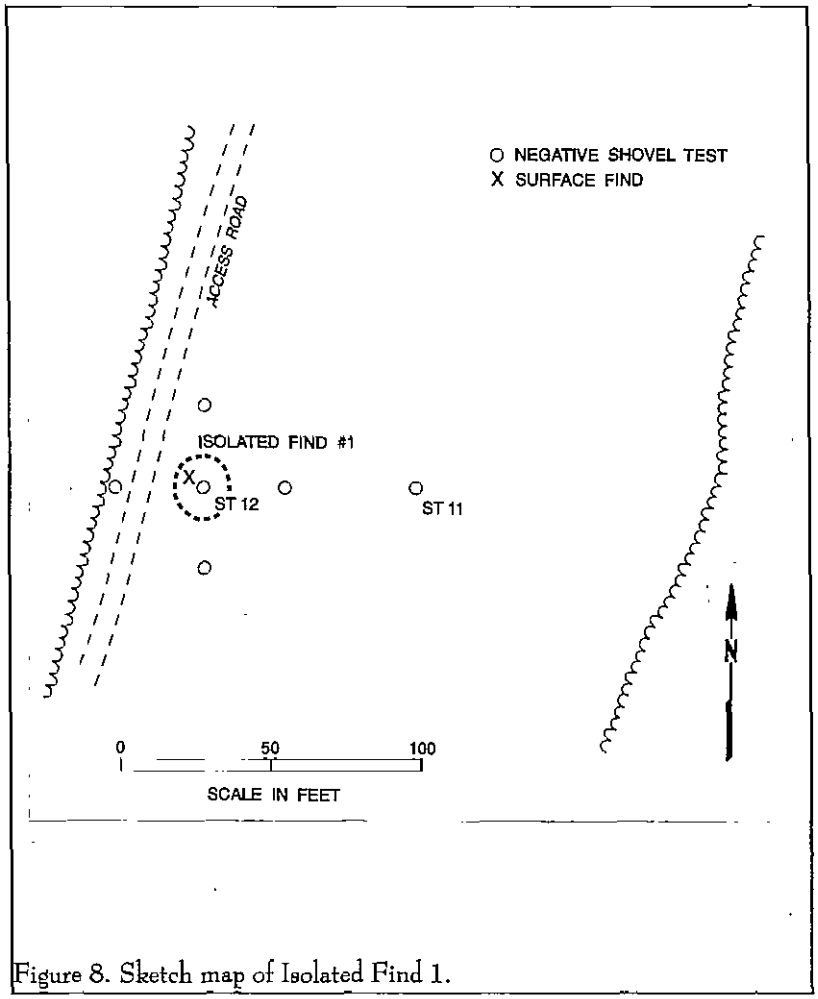

Figure 8. Sketch map of Isolated Find 1.

Shovel Test 1, placed just north of the surface finds, yielded no materials. Likewise, Shovel Test 2, situated 100 feet to the south, also failed to produce cultural remains. Shovel Test 15, situated 25 feet south of Shovel Test 1, however, produced two rhyolite flakes, as did Shovel Test 16, 25 feet to the west. Additional shovel tests to the east of Shovel Test 15 and west of Shovel Test 16, failed to yield any remains, although the surface scatter extended into these areas. Additional testing to the south at 25-foot intervals was also negative, again in spite of the larger surface scatter (Figure 7).

The shovel tests revealed considerable diversity in the soils, likely the result of the extensive erosion of this site. The soils, however, are identified as Caroline fine sandy loams. In those areas where artifacts were recovered, we found about 0.7 foot of dark grayish brown sand (10YR4/2) overlying yellowish brown (10YR5/6) sand excavated to a depth of 1.2 feet. All of the artifacts were recovered from the upper A horizon. In those areas where no remains were identified, we found subsoils characterized by clay and clay loams, as well as very reduced A horizons. Both of the positive shovel tests were situated on a very narrow terrace, probably accounting for both the preserved A horizon soils and also the choice of this particular area for what appears to be a very short term occupation.

Although the shovel tests reveal a site no larger than about 15 feet north-south by perhaps 40 feet east-west, the surface scatter (used as the site dimensions) measured about 50 by 90 feet. This is considerably smaller than originally reported and we suspect the difference is at least partially the result of continued erosion. It is also possible that the site has continued to be collected, or even that the bulk of the materials were picked up during the initial study.

Although this site produced a number of flakes, it appears to represent largely a surface scatter, with very little material still below ground. There is also evidence of extensive erosion, suggesting that there has already been extensive damage to this site area, both by the powerline construction and perhaps by the Diversion Canal itself. The data sets are limited to lithic material. We found no tools, or other remains.

As a result, it seems unlikely that this site has the potential to address significant prehistoric research questions. It was originally recommended that no further work be conducted at this site (at that time the approximate equivalent of being recommended not eligible). We continue to recommend this site as not eligible for inclusion on the National Register of Historic Places. Pending the concurrence of the Forest Service in consultation with the State Historic Preservation Office, we also recommend no additional management activities for this site.

Isolated Find 1

During the initial pedestrian survey of this corridor a single prehistoric ceramic — identified as a Deptford Plain sherd — was recovered from an eroded area adjacent to the western edge of the project corridor. The item was found on the edge of a slight ridge or knoll, dropping off to the west, but generally level to the east. The central UTM of this location is 602525E 3697330N and the elevation is about 65 feet AMSL. Surface visibility was good in the immediate area, with the access road to the west and additional erosional areas to the north and south. In spite of this no additional surface remains were identified.

A series of five shovel tests were excavated — one central test in the immediate area of the surface find, and four additional tests in cardinal directions at 25-foot intervals (Figure 8). These tests revealed generally eroded soils, consisting of a brown (10YR5/3) sandy clay about 0.4 foot in depth, overlying a yellowish brown (10YR5/8) sandy clay excavated to 1.0 foot. One of the shovel tests revealed a less disturbed horizon of grayish brown (10YR5/2) sandy loam about 0.5 foot in depth, although it produced no cultural remains. The soils in the vicinity of this isolated find are also identified as Caroline fine sandy loams.

This isolated find cannot address any significant research questions appropriate for Middle Woodland sites on the Francis Marion. Not only is the site heavily damaged by erosion and powerline maintenance activities, but the data sets are limited to this single artifact. We recommend the find as not eligible and propose no additional management activities.

Isolated Find 2

During the shovel testing of the project corridor, Shovel Test 3 recovered two orthoquartzite flakes within the A horizon (consisting of 0.7 foot of very dark grayish brown (10YR3/2) sand; below was a yellowish brown (10YR5/6) sand to a depth of 1.2 feet. The soils in the immediate vicinity are identified as Caroline fine sandy loams. Additional shovel testing in cardinal directions failed to produce any additional materials (Figure 7). Surface visibility in the immediate area was poor.

The central UTM coordinates for this find are 602620E 3697330N and the item was recovered from an terrace area about 65 feet in elevation. Vegetation was dominated by brambles and low weeds. To the edges of the corridor, however, were predominately pine, with some evidence that the area had been logged within the past 50 years.

This site has not suffered any clearly identifiable erosion or disturbance, but nevertheless, we suspect that clearing and grubbing associated with the powerline construction has caused significant damage. In fact, it is possible that these flakes represent materials scattered from the nearby site. Regardless, our inability to recover additional materials and the limited data sets present, suggest that these materials cannot address significant research questions. We recommend it not eligible for the National Register pending the concurrence of the Forest Service.

Archaeological Survey of the Corridor in Compartment 25, Tract F 76

This survey corridor was about 1.2 miles in length by about 180 feet in width. It began at S-53 and continued southward to FS 115 (Figure 9). All of this

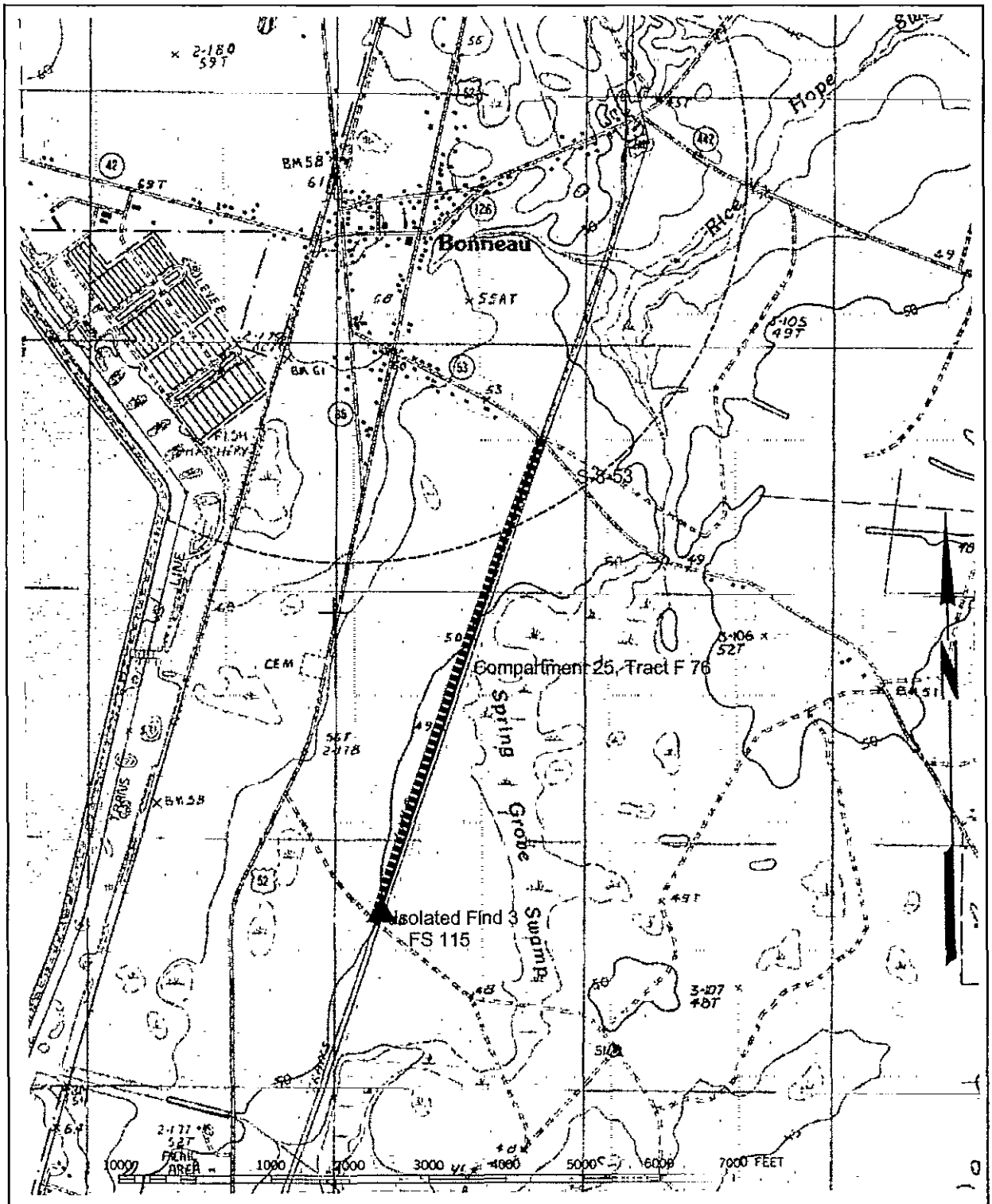

Figure 9. Portion of the Bonneau USGS topographic map showing the Compartment 25, Tract F 75 survey corridor and identified finds.

corridor was very level (Figure 10) and characterized by low weeds. An access road runs on the western side of the easement for the first 0.4 mile, while on the south end of the corridor, the access road is situated on the east side.

Figure 10. Compartment 25, Tract F 75 survey corridor, view from S-53 to the south.

The survey consisted of two transects — designated as Transects 1 and 2. Transect 1 runs from S-53 southward for about 4200 feet and consists of 22 shovel tests placed in the center of the corridor at 200 foot intervals. This transect was terminated when we reached an area of relatively deep standing water (about 1.5 to 2.0 feet in depth) that extended southward for at least four or five shovel tests (about 800 feet). At that point we retraced our steps back and picked up the survey corridor at its southern end. Transect 2 runs northward from FS 115 for 1400 feet and consists of 14 shovel tests, again placed at 200 foot intervals. This transect was stopped when we again hit an area of relatively deep standing water, which we believe is that same ponded area as we encountered from the opposite side.

Transect 1 revealed poorly drained soils throughout its length. The typical soil profile consisted of about 0.6 foot of fine black (N2/0) sand overlying a gray (10YR5/1) sand subsoil. The soils ranged from damp (i.e., glistening) to wet (i.e., water trickling down the profiles and pooling in the base of the test). Soils were consistently very difficult to screen. Because of drainage problems in this area no effort was made to excavate additional shovel tests at the edges of the corridor. Although there were few open areas, the pedestrian survey did reveal that the entire corridor was rutted and uneven. This suggests that the soils rarely dry out and that much maintenance activity has taken place when the soils are wet and susceptible to rutting. Of the 22 shovel tests on Transect 1, 13 were not excavated because of standing water, with the depth at the last two test locations reaching about 1.5 to 2.0 feet.

At the southern end of the corridor, Transect 2 initially revealed soils that were somewhat better drained. The first two shovel tests were excavated at 200 foot intervals, which then were reduced to 100 foot intervals for the next five shovel tests. In this area the soils had a typical profile of about 0.4 foot of black (10YR2/1) sand overlying a yellowish brown (10YR6/4) sand subsoil, excavated to between 1.1 and 1.3 foot. At shovel test 10 the soils again became very low and poorly drained, with the profile consisting of a black surface soil overlying a gray subsoil. At that point we again reverted to testing at 200 foot intervals and an additional three tests were excavated before we were confronted with deep standing water — at which time the survey was terminated. There was an access road on the east side of the corridor, as well as numerous areas (especially toward the southern end) with very sparse

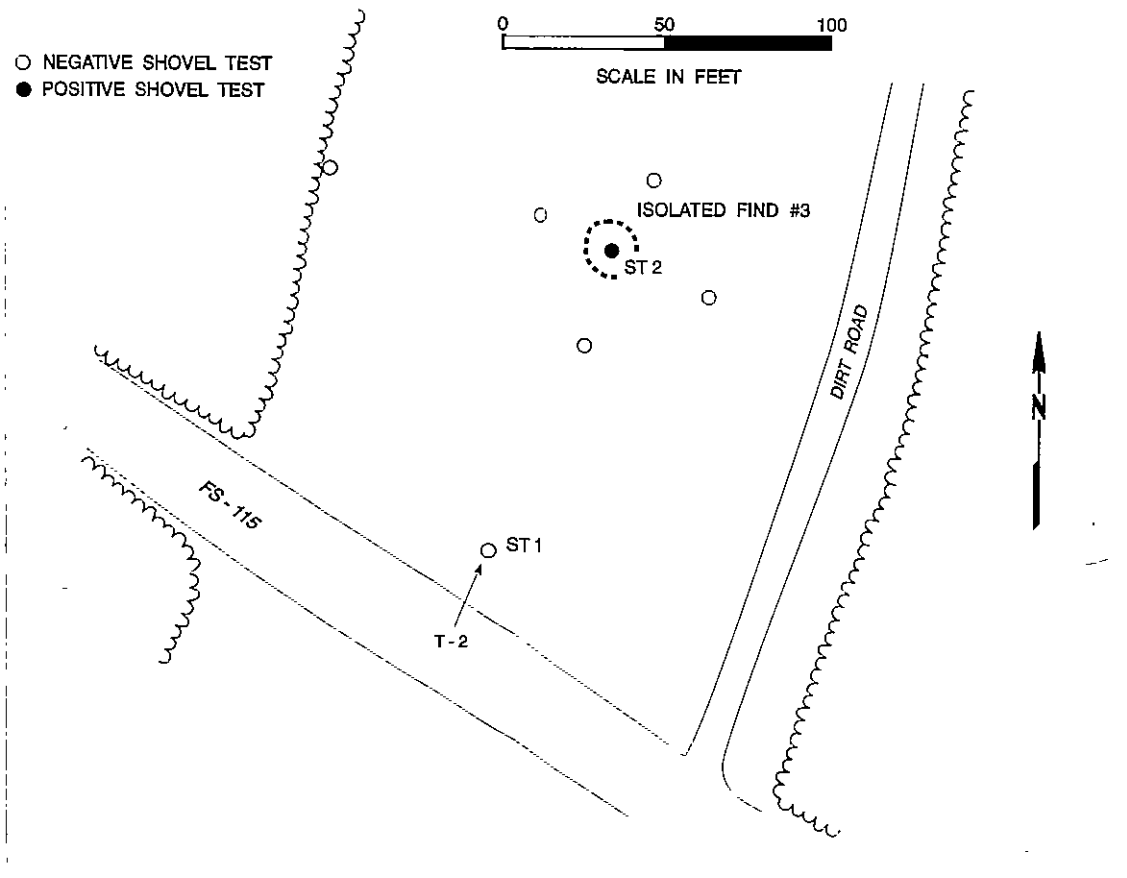

Figure 11. Sketch map of Isolated Find 3.

vegetation. These areas were examined to supplement the shovel testing.

Isolated Find 3

One Refuge/Deptford Plain sherd was identified from the dark brown surface soils of Shovel Test 2, identified as Lynchburg fine sandy loams. At that point additional shovel tests were excavated at 25 foot intervals in the cardinal directions (Figure 11). All of these tests were on equally dry soils, but none produced any additional materials. Nor were any additional materials found in the nearby road or in adjacent open areas.

The central UTM coordinates of this isolated find are 597205E 3682920N and the item was recovered from an area with an elevation of about 50 feet AMSL. Vegetation in the area was limited to sparse, low grass. To the sides of the powerline easement the vegetation is mixed pine and hardwood, with the plants being somewhat more mesic on the eastern side. In the immediate site area the road appears to be slightly built up, although it doesn't appear to be constructed from fill (it may have been built up using the soil in the site area, perhaps accounting for the isolated find).

This site does not possess the data sets necessary to address significant research questions. In addition, it seems likely that the general area has been extensively damaged by the construction of the powerline and associated access road, as well as perhaps

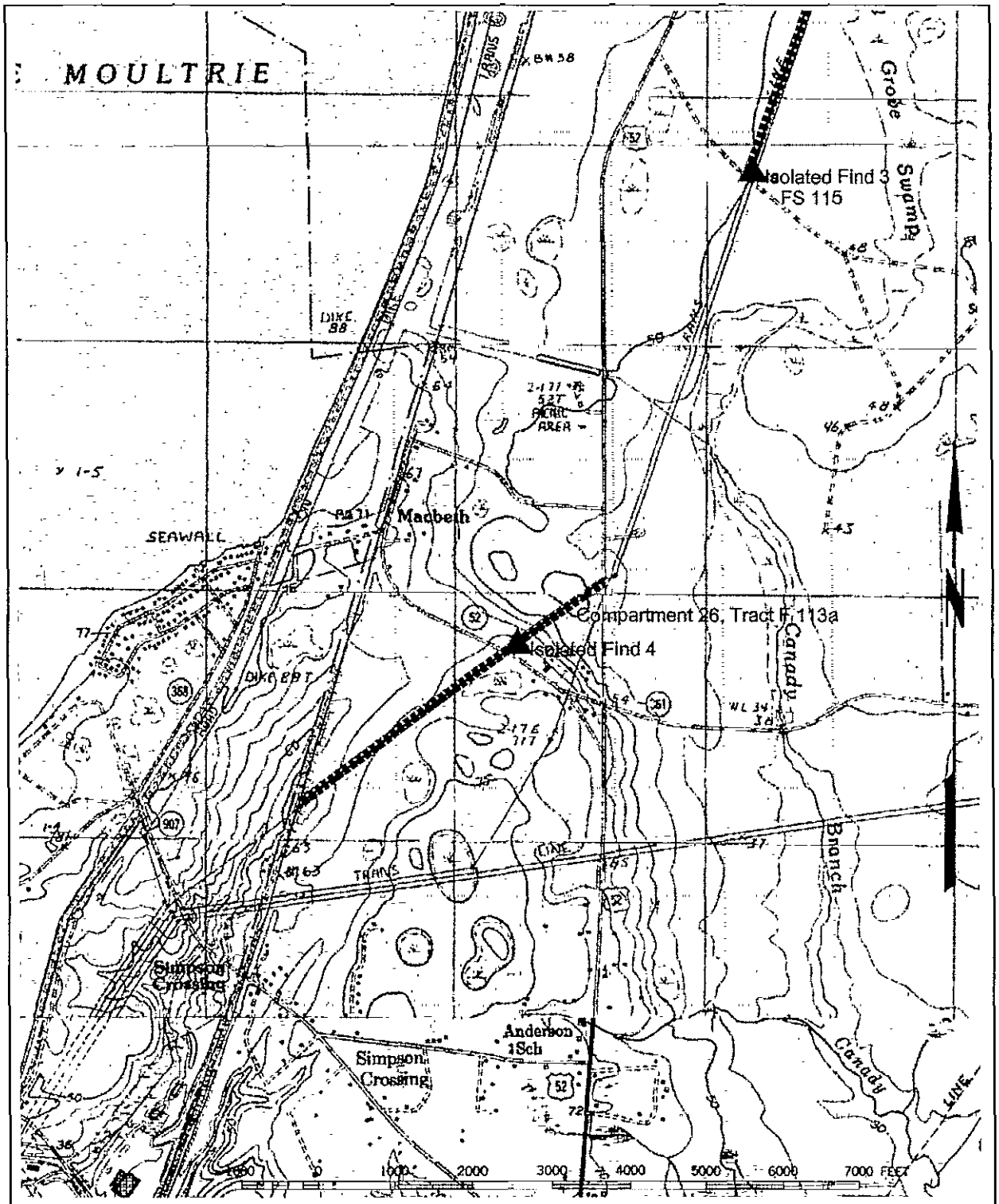

Figure 12. Portion of the Bonneau USGS topographic map showing the Compartment 26, Tract F 113a corridor and identified finds.

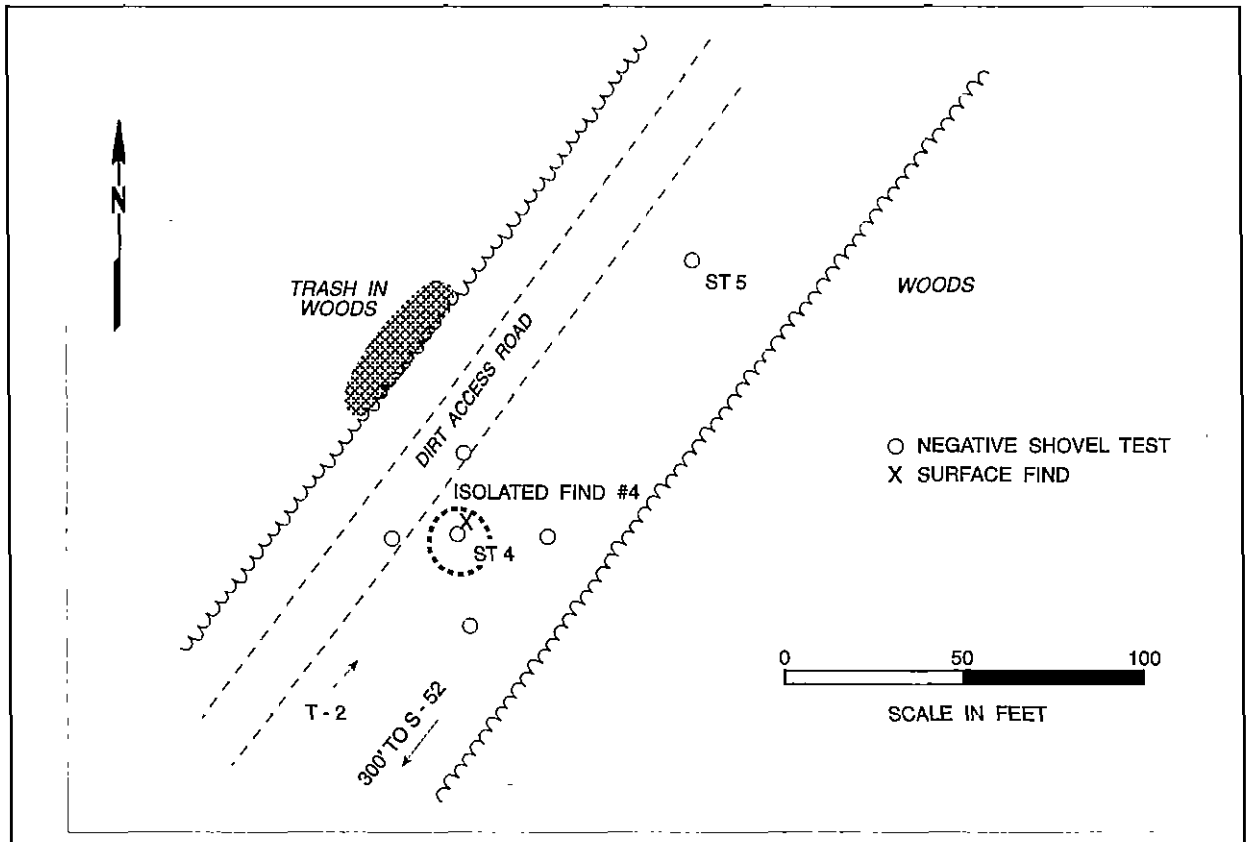

Figure 14. Sketch map of Isolated Find 4.

gray sands. This corridor, while wet, appeared to contain several quasi-distinct drainages where the standing water increased from about 0.1 foot to nearly 0.8 foot deep. Interspersed among these very wet soils were damp soils. Consequently, we continued the survey to the railroad easement. Of the 28 shovel test locations six were not excavated because of standing water. At the southern end of the corridor the ground increased in elevation slightly and we again found upwards of 0.7 foot of brown sand overlying a yellow sand subsoil. There was a food plot adjacent to, but not within, the powerline corridor for about 1,000 feet. This area, in the south central portion of the alignment, had been plowed and planted in corn. Surface visibility was about 50% and it was examined at the conclusion of the shovel testing.

Isolated Find 4

During shovel testing of Transect 2, a single Deptford Plain sherd was encountered on the surface adjacent to Shovel Test 4 (the shovel test itself was negative). A series of four additional shovel tests were excavated in cardinal directions from Shovel Test 4, but no additional materials were found (Figure 14). In addition, surface visibility in this area was good (about 65%) and a pedestrian survey was conducted, looking for additional materials — none were found.

The central UTM coordinates for this find are 596275E 3681005N. The sherd was found in an area of Bonneau soils at an elevation of about 65 feet AMSL on the edge of the ridge side slope to the north. Vegetation in the corridor consists of sparse grass. At the margins are hardwoods with a few pine. As the ground begins to slope to the north, and the soils become slightly damper, the proportion of pine increases.

by routine maintenance activities. As a result, we recommend no additional management activities and believe that the site is not eligible for inclusion on the National Register.

Archaeological Survey of the Corridor in Compartment 26, Tract F 113a

This corridor is about 5,800 feet in length, but only about 80 feet in width. It begins at US 52, where the 115kV line splits from the 230kV line. While the main line continued straight to the south-southwest, the survey corridor crosses over the highway and continues to the southwest (Figures 12 and 13). Much of this corridor is also very low and poorly drained and it was divided into three survey transects.

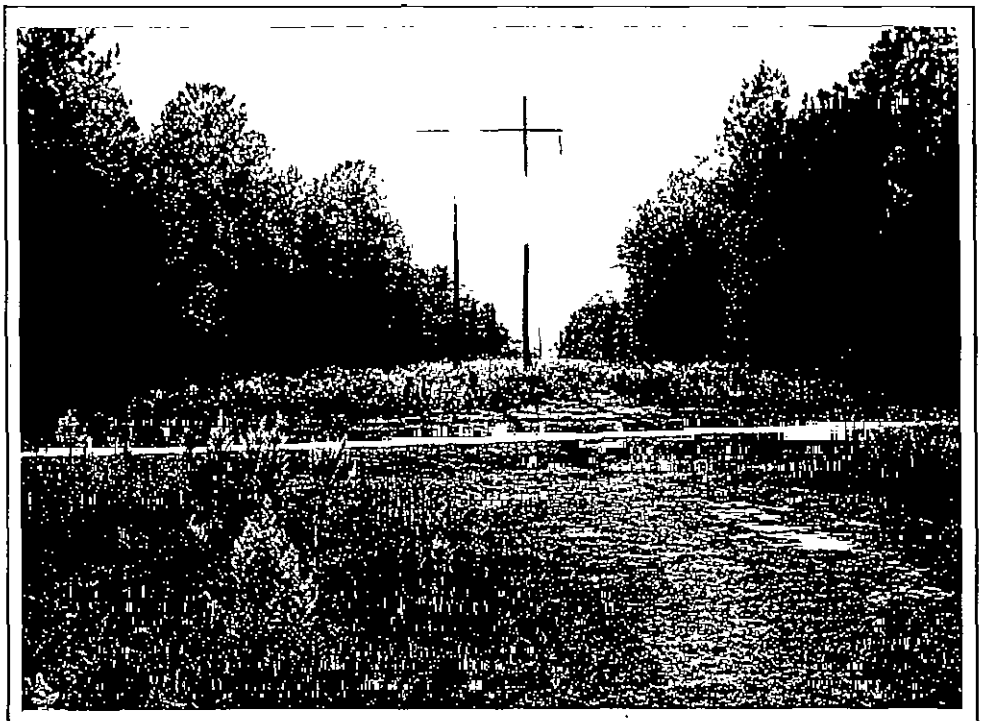

Figure 13. View of the Compartment 26, Tract F 113a corridor from S-52 looking south.

Transect 1 runs for 450 feet (three shovel tests) from US 52 southwest. Each of these tests revealed wet black loam overlying a gray subsoil. This portion of the corridor is poorly maintained and was dominated by brambles. Shovel testing was terminated after three tests since the soils were becoming progressively wetter, apparently reflecting a slight drainage or slough area at the base of a higher ridge to the south.

Transect 2 runs for about 1200 feet from the crossing of S-52 northeast across the ridge and down the slope until wet soils were again encountered. The first 11 shovel tests were at 100 foot intervals because the soils were well drained, exhibiting a profile of about 0.4 foot of very dark graying brown (2.5YR3/2) loamy sand overlying 0.3 foot of yellowish brown (2.5YR6/4)sand. Below this the soils continue to lighten in color and shovel tests were excavated to depths of at least 1.1 feet and often as deep as 1.6 feet. In addition, the vegetation on the corridor in the area of survey in Transect 2 consists of very sparse grass, with surface visibility averaging about 50 to 60%. As a result, the shovel testing was combined with a pedestrian this area. The interval was extended to 200 feet between Shovel Test 15 and 16 because the ground became more boggy and the soil profile exhibited increasing reduction. Shovel testing was terminated at this point on the transect because the profiles were wet.

Transect 3 runs for about 5000 feet from S-52 southwesterly to the Seaboard Coast Line Railroad easement. Although the first 200 feet of this transect was dry soil similar to that found to the north of the road, the elevation began to drop slightly and the soils ranged from damp to wet. By Shovel Test 5 we began testing at 200 foot intervals and found profiles consisting of 0.5 foot of black loamy sand overlying

The only item found — and hence the only data set present — is the single sherd. There was evidence of some site disturbance, including the sparse vegetation and the dumping of modern (largely construction) trash along the woods edge. We do not believe that this site can address significant research questions and therefore recommend it as not eligible for inclusion on the National Register of Historic Places. Pending the review and concurrence of the Forest Service, in consultation with the State Historic Preservation Office, no additional investigations or management activities are recommended.

SUMMARY AND RECOMMENDATIONS

This study involved the examination of three relatively short segments of the Santee Cooper 230kV and 115kV Jefferies (Pinopolis) to Kingstree transmission line which were constructed several decades ago. Santee Cooper is renewing its easement for these lines with the Forest Service and that agency directed that an archaeological study of the corridor on federal lands was required prior to the renewal. This report provides the results of that investigation and is limited to three sections: Compartment 2, Tract F 1260; Compartment 25, Tract F 76; and Compartment 26, Tract F 113a.

The first corridor extends a total of 950 feet and has a cleared width of about 180 feet; the second corridor extends about 1.2 miles, again with a cleared width of about 180 feet; the final corridor extends about 5,800 feet and has a cleared width of at most 80 feet.

Much of the corridor in all three areas consists of poorly drained and wet soils such as Ocilla, Pinckney, and Rains — significantly limiting the potential for archaeological or historical sites. Background checks did not identify any previous sites recorded on any of the survey corridors, although there have been a variety of nearby investigations.

The corridors were investigated using shovel tests placed at 100 and 200 foot intervals, with supplemental tests at 75 foot intervals. In addition, pedestrian survey was conducted in all areas where surface visibility allowed. Areas of standing water were not shovel tested.

The previous research in the area suggested that sites would be primarily identified on well drained soils and that most sites would be found within 0.5 foot of the surface. In addition, it seemed likely that the site density would be low and the quantity of materials encountered at any site would be low. All of this seems to have been borne out by the current investigation.

Only one previously reported site, 38BK233, was encountered during these investigations. That site, situated on well drained Caroline soils at the northern edge of the survey in Compartment 2, yielded a small collection of non-diagnostic lithic flakes and two Early-Middle Woodland (Deptford) plain sherds. In addition, the site area has been heavily damaged by erosion associated with the construction and maintenance of the powerline, as well as perhaps the construction of the Santee Cooper Diversion Canal.

The limited data sets, coupled with the amount of ground disturbance (and associated questions concerning site integrity) have caused us to recommend the site as not eligible for inclusion on the National Register of Historic Places. This is consistent with the site's initial evaluation in 1977 (Brockington 1980:Table 1).

We also identified four isolated finds, consisting of two flakes and three sherds. Each location was tested using close interval shovel tests (as well as, where possible, pedestrian survey), but no additional remains were encountered. There of these four finds were identified on well drained to moderately well drained soils (Caroline and Bonneau). One was identified on somewhat poorly drained Lynchburg soils (although the soils in this location appeared moderately well drained). These isolated finds are also recommended not eligible for inclusion on the National Register.

All of the archaeological materials (with the possible exception of the one isolated find from Lynchburg soils) were found in relatively well drained — or high probability — loci. This is in spite of the fact that only 29.7% of the corridor is situated on well drained soils. Clearly, at least in this survey, there is a strong correlation between archaeological deposits and at least moderately well drained soils.

Examination of the nearby road sides also

failed to identify any structures or sites which appeared to be 50 or more years old adjacent to or within 0.1 mile of the various crossings. The project area is largely characterized by forest. Regardless, the corridor has been used for a powerline easement for a number of years and no expansion on the line is proposed — consequently, there will be no additional visual or landscape impacts. Nor is it likely that the continued maintenance of these alignments will have any dramatic impact on the surrounding area.

As a result, we recommend no additional cultural resource management activities on this corridor, pending review and concurrence by the Forest Service in consultation with the State Historic Preservation Office.

It is possible that archaeological remains may be encountered in the corridor during maintenance activities. As always, Santee Cooper crews should be advised to report any discoveries of concentrations of artifacts (such as bottles, ceramics, or projectile points) or brick rubble to the project engineer, who should in turn report the material to the U.S. Forest Service, South Carolina State Historic Preservation Office, or Chicora Foundation. No further maintenance activities should take place in the vicinity of these discoveries until they have been examined by an archaeologist.

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